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Maximum Paper Prices Established by OPA

Regulation No. 129 Fixing Ceiling Prices On Many Papers and Paper Products Becomes Effective May 11 — Price On Standard Kraft Wrapping Remains Unchanged — Records Must Be Kept.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1942—Maximum prices at which manufacturers can sell many varieties of converted paper products and industrial papers are established at levels which prevailed late in 1941 in Maximum Price Regulation No. 129 have been announced by Price Admnistrator Leon Henderson with the General Maximum Price Regulation.

The regulation, effective May 11, 1942, fixes manufacturers' maximum prices for hundreds of paper items. Some prices are based on levels prevailing during the period from October 1 to October 15, 1941, others are based on levels of the December 1-15, 1941, period, and for a few other commodities specific prices have been set forth.

"A substantial majority of the manufacturers in each of the industries covered by this regulation have previously signed individual agreements with OPA or have complied with requests by OPA to stabilize prices," Mr. Henderson said. "The prices established by the regulation are thus the same as those generallv prevailing during March, 1942.

"A small group of producers did not sign individual agreements with OPA, and consequently their prices in March were higher than those which generally prevailed in their industries. Accordingly, the use of the March, 1942, base period as in the General Maximum Price Regulation, to determine prices for these products would have had the effect of rewarding those who had refused to cooperate with OPA in the effort to halt inflation."

Prices Considered Fair and Equitable

The administrator found that the prices established by the regulation are fair and equitable.

Covered by the regulation are: waxed paper; envelopes; paper cups, paper containers and liquid tight containers; sanitary closures and milk bottle caps; drinking straws; certain sulphate and certain sulphite papers; certain tissue papers; rope and jute papers; gummed papers; technical papers; tags, pin tickets, and marking machine tickets; glazed and fancy papers; standard grocer's and variety bags; resale book matches; unprinted single weight crepe paper in folds; certain bag papers; and certain wrapping papers.

Variety of Paper Products Affected

The maximum prices established by the regulation for the following commodities are the highest prices a manufacturer charged during the October 1-15 period; waxed paper, including such classifications as bread wraps, carton wraps, cutter box papers, waxed glassine, twisting tissue, plain waxed papers and delicatessen papers; paper cups; envelopes (except those made of specialty papers or of transparent materials); paper containers, and liquid tight containers; sanitary closures and milk bottle caps; drinking straws; certain sulphate and sulphite papers defined specifically in the order; rope and jute papers; tissue papers under 18 pounds basis weight, excluding cigarette, carbonizing, fruit wrapping and condenser tissues; and technical papers including but not limited to those classified as saturating, impregnating, insulating, shotshell and photographic papers.

The maximum price a manufacturer now can charge for any gummed papers, tags, pin tickets, marking machine tickets, glazed and fancy papers, are the highest prices he charged in the period from December 1-15, 1941.

Specific maximum prices are established by the regulation for the following: (1) self-opening (automatic) kraft grocer's bag; (2) resale book matches; (3) unprinted single weight crepe paper in folds, and (4) standard kraft bag paper and three grades of wrapping paper. Differentials for other grades of standard grocer's and variety bags and machine glazed kraft bag paper and kraft wrapping paper are established by reference to differentials on sales and deliveries during the period from Oct. 1-15, 1941.

The words "highest price charged" are fully defined in the regulation.

The maximum manufacturer's delivered price for self-opening (automatic) kraft grocer's bag carload lot, Zone A, is 25/5's discount from standard list price. (The zones defined in the order are those generally used by the trade for pricing purposes.)

(Continued on page 26)

Rising Costs a Problem to Newsprint Mills

L. J. Belnap, Head of Consolidated Paper Corp., Reviews Difficulties Confronting Canadian Newsprint Manufacturers — Papermakers Want Production Distributed — Heavy Losses By Fires.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 4, 1942—A review of the difficulties now facing newsprint manufacturers in Canada by one of the authorities most competent to make that review, was contained in the address delivered by L. J. Belnap, president of the Consolidated Paper Corporation, at the annual meeting here of the shareholders of that organization a day or two ago.

Greater volume, he said, usually reflects higher profits, but in the company's case it had reflected higher costs and higher taxes. Notwithstanding an increased 11% in sales over the previous year and a dollar volume 12% higher, the net profit for the year, at $880,220, had shown an increase of only $5,700. In the year foreign exchange had contributed $1,203,621 towards profits, after deducting $221,653 pertaining to interest on bonds.

"This form of income," he said, "is a considerable porportion of the net income. Its continuity is by no means certain, and it should be realized that it is distinctly of a transitory character."

Canadian Industry Faces Many Problems

Then he proceeded with the following review of the problems facing this and all other newsprint companies in Canada:

"Cost of wood, materials, transportation and labor were greatly in excess of the previous year and the indications are of further increases in the current year.

"Shipping costs have been greatly increased. Overseas, inland and coast-wise water transportation has badly demoralized this form of transportation for manufactured products as well as some of the raw materials required, such as, coal, sulphur, etc.

"There has been a general increase in rail freight rates in the U. S. effective March this year, which will further increase costs.

"In the present circumstances, with the future of all enterprise very obscure, prudence dictates the necessity of continuing a policy of conserving liquid resources.

"On March 1, 1942, in accordance with the Sinking Fund provision in the Trust Deed, there was tendered to the Trustee mortgage securities in the amount of $1,844,068.00 par value for retirement. The funded debt now stands at $47,418,390.00. It has been reduced $3,988,510 during the last two years.

"Pulpwood shortage has threatened most of the pulp and paper producers in this country.

"During the past winter there has been a shortage of approximately 25 per cent of the man days required to produce the anticipated pulpwood requirements during the usual season. The shortage has been largely due to the migration of workers and time lost thereby. The labor shortage could have been averted if there had been continuity of work on the part of those employed in the production of pulpwood.

Newsprint Exports Second to Wheat

"Newsprint exports from Canada in 1941 amounted to approximately $155 millions. The only other item of export that exceeded this was wheat, which was approximately $162 millions. Total export of newsprint paper was approximately 95 per cent of the total production. Canada consumed less than 200,000 tons.

"Increase in manufacturing costs, coupled with mandatory 'maximum' selling prices of pulp and paper, presents a serious problem for the future.

"For 4½ years there has been no increase in the selling price of newsprint paper. Shortly after the outbreak of the war, consumers were advised that there would be no profiteering and there would be no increase in price for as long as possible, or until such time as costs made it in inevitable.

"Our cost of newsprint paper since the outbreak of war has increased several dollars per ton, and if during the current year, production and sales volume decrease appreciably, the unit cost will be very much greater.

"Because of the uncertainties ahead due to ever changing wartime conditions it is increasingly hazardous in the making of forward commitments, but some must be made.

"For example, this month a decision must be made on the quantity of wood to be provided for the operation of mills for the period from June 1, 1943 to June 1, 1944. This, of course, involves forecasting sales of pulp and paper in that period."

Consolidated Elects Directors

The financial statements of the company were adopted and directors were reelected, with the addition of C. R. Whitehead, a vice-president of the company, who succeeds the late Rt. Hon. Arthur B. Purvis.

It may be added that Mr. Belnap has just been elected a director of the British American Oil Company, to fill a vacancy left by the late Rt. Hon. A. B. Purvis. Mr. Belnap, in addition to being president of the Consolidated Paper Corporation, is president of Dominion Glass (Montreal), a director and member of the Executive Committee of the Canadian Pacific Railway and a director of the Bank of Montreal.

Cost of Wood Highest in Years

"The cost of wood will be the highest in 15 years and a too liberal forecast, should the price decline, because of lower production of pulp and paper or other unforeseen circumstances, might result in serious inventory losses. Furthermore, pulpwood in stock piles for too long a period, deteriorates considerably.

"The program for improvement and modernization of plant and equipment has been curtailed, owing to

the necessity of conserving essential materials for the war effort.

"Only such maintenance is being carried on as is absolutely necessary to keep the equipment in efficient condition."

Referring to price control measures, he said, in part: "Probably had the plan not been in effect there would have been further rise of 10 to 15 points during the period it has been in operation, as has been the case in other countries where there has been no universal price control.

"Price control and rationing is a decided help in achieving a uniformity of sacrifice, as well as checking inflation; the best simple definition of which I have heard, is 'paying more for less'."

Papermakers Want Production Distributed

As the result of a conference between government officials and union representatives of the pulp, sulphite and paper workers of the International Brotherhood of Papermakers, the Minister of Labor has announced that he will seek cooperation of paper manufacturers in an effort to distribute production among Canadian mills.

At the conference the union representatives said some mills were working seven days a week on fine papers while other mills were only in operation three or four days a week.

They suggested some mills should be converted to finer grades to distribute production more equally. A proposal was also made than in localities where paper mills and direct war industries are located men who are on short time in paper mills might be used on off days in the war plants.

Union officials said their representations were well received and that the Minister of Labor had said he would try to bring manufacturers together in an effort to draft a plan of more equal distribution.

Heavy Losses by Forest Fires

According to a return just published by the Dominion Government, forest fires raged last year over 4,250,000 acres causing total damage of $13,242,179 including cost of fighting the blazes—the worst forest fire year since 1923.

Average loss in the previous 10 years was $4,498,463. Actual cost of fighting forest fires last year was $1,307,059, an increase of about $500,000 over the 10-year average.

"Fortunately the (1941) fire season was not of equal severity in all parts of Canada, and with the exception of Quebec, Ontario and Alberta, the fire losses were below the annual average for the previous decade," a departmental statement said.

"In the three provinces specifically mentioned, extremely dry weather, combined with other causes, resulted in the spread of fire which burned an area from two to seven times greater and caused losses from two to 10 times higher than average for the previous 10 years."

Spring fires accounted for about 70% of the area burned over, and 85% of the total loss. Lightning was the major cause of fires and accounted for 23% as compared with the 10-year average of 16%. Settlers' land-clearing operations caused 18% compared with a 17% average; smokers 14% compared with 16%, and camp fires 13%, compared with 20%.

"These figures indicate that 23% of all fires occurred in 1941 were caused by lightning, a natural cause, while the balance of 77% was due to human carelessness which could be avaoided," the statement said.

"At this time when Canada's forests are playing such an important role in the war effort, the protection of the forest resources from fire is a matter of deep concern to all citizens of this Dominion. . . . The situation can only be met by every Canadian doing his part by taking extra precautions in the use of fire in or near the forest."

Fined on "Hot Goods" Conviction

Found guilty of violating the "hot goods" provision of the Fair Labor Standards Act—the shipment in interstate commerce of goods produced in violation of the Act—the Southern Advance Bag and Paper Company, a Maine corporation, must pay a fine of $3,000, L. Metcalfe Walling, Administrator of the Wage and Hour Division, U. S. Department of Labor, last week was advised.

The fine was imposed by Judge Benjamin C. Dawkins in U. S. District Court at Monroe, La., where a jury returned a verdict of guilty against the company. The corporation and three officials had been charged with criminal violation of the "hot goods" provision, but the jury found only the corporation guilty.

The corporation operates a paper and bag mill at Hodge, La., where, the jury found, the corporation "unlawfully and wilfully" shipped in interstate commerce paper which was made from pulpwood produced in violation of the minimum wage and overtime provisions of the Wage-Hour Law. It was shown that the corporation knew, on the basis of the price it paid for pulpwood, that pulpwood cutters and truckers who produced and hauled the wood were not and could not be paid in accordance with the minimum requirements of the Law.

Commenting on the case, Mr. Walling said: "The conviction is a major step towards bringing the benefits of the Wage and Hour Law to the approximately 100,000 pulpwood workers in the United States who, through the peculiar nature of their employment, have not as a whole been receiving the protection of the Law.

"It is the aim of the Division, through vigorous action of a similar nature, to bring the benefits of the Wage and Hour Law to these workers, many of whom have been paid as little as 10 and 15 cents an hour. Although this action was brought against a mill in the South, the decision will benefit woods workers in New England and the Northwest as well. We confidently look forward to better compliance with the Law as a result of this conviction."

Science of Pressroom Procedures

Approximately 300 men in the Chicago area are taking advantage of the lectures on Science of Pressroom Procedures being offered by Charles W. Latham for the Lithographic Technical Foundation. Class sessions are being held each week for six weeks as follows: In Milwaukee on Monday evenings at the Milwaukee Vocational School with 56 men in attendance; in Racine on Tuesday evenings at the Western Printing and Litho. Company with 60 men attending, and in Chicago on Wednesday and Friday evenings at the Atlantic Hotel with a total of 180 men in attendance.

Chicago Reports Paper Market Less Active

Declining Demand For Important Grades of Book Paper and Decrease In Newspaper Advertising Is Now Experienced More Severely — Milk Container Argument Is Renewed — Other News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 4, 1942—The general maximum price regulation order, Nos. 128 and 130, effective May 11, seemed to mostly affect the wholesale paper market where conditions have already quieted down very materially. General admission that control of inflation was an absolute necessity, featured remarks concerning the price order, though where informal freezings had not occurred before, there continued to be a fear that the "price squeeze" arising from acute lag problems might be very costly unless OPA efforts were felt immediately. Aside from the OPA order, the market plodded along, according to reports, without any of the sensational developments of only a few weeks ago. Buying of advertising papers was slowing up even more and other lines reported that conservation campaigns were beginning to permit mills not only to catch up but to build appreciable back logs. Kraft papers continued to be very strong as were most grades of sulphites. Slackening of newspaper advertising and resultant decrease in the size of papers was combining with other economies to make the newspaper sources of supply much more plentiful. Waste paper continued to be only fair with collections reported bogging down somewhat because of the collection.

Paper Container Argument Again Active

The "on again off again" complexity of the paper milk container argument is reaching the stage where people are getting a quiet chuckle out of it. Latest developments came when the U. S. Supreme Court refused to rule on a dispute of authority between the city and the State and sent the case back to the state courts—or to a state of "status quo". Now the city of Chicago plans to renew its fight against the us of paper milk containers and will, within the next twenty days prepare an attack on the December 1940, injunction granted by local courts which prohibit the city from interfering with the use of the paper containers. The point of issue in the action is a contention that the city has the power to forbid delivery of milk in anything except glass containers and the city ordinance has been described as "granting a monopoly to the bottle makers." Paper milk containers are in wide use in the city and suburbs despite all the legality; and the advantages of paper milk containers have, fortunately for the industry, been wisely presented to the milk users of this area.

Justin Weddell Talks to Sales Group

About one hundred salesmen and their guests met on Monday noon of this week to hear a talk by Mr. Justin Weddell, assistant to the president of the Union Bag and Paper Corporation, on the subject of England during war times. Mr. Weddell has been associated with N. W. Ayer & Sons for about ten years, spending all of that time either in England or on the continent and his remarks were authoritative and very well received by the members of the Salesmens Association of the Paper Industry. Burt Fisher, western vice president, presided at the meeting which was almost entirely given over to Mr. Weddell's discussion. The paper trade executive outlined the adjustments England had had to make and emphasized the rapidity and thoroughness with which the English adjusted themselves after being actually attacked. Until that time, he pointed out, the English were comparatively apathetic about the perils they faced but the readjustments have placed them in an excellent psychological and military position to carry on from here. Mr. Weddell pointed out that the paper shortage in England was definitely much more serious than it is in this country where it is still the consensus of local opinion that real shortages have not developed except in a few instances. He stressed the conservation work done in England to conserve all essential war materials.

Summer Golf Outings

The members of the Western division also heard further word from Ray George, golf chairman, and sales executive of the Tomahawk organization, as to the first of the five summer golf outings to be held on Friday, May 22, at the sporty Sunset Ridge Country Club in Winnetka.

Safety Conference Features Week

The twentieth annual Midwest Safety Conference and Exposition held the week of May 5 at the Sherman Hotel, Chicago, is expected to attract a large number of safety engineers and other experts from the paper manufacturing industry of this middle western section. The event is under the auspices of the Greater Chicago Safety Council, the Institute of Traffic Engineers and cooperating agencies. More than one hundred exhibits will be on display and the three day speaking program is crammed with speakers who will stress the importance of industrial safety particularly at this time. There will be sessions on industrial safety, public safety, flammable liquids, commercial vehicles and industrial defense.

Complete Howard Office Building

The Howard Paper Company, Urbana, Ohio, have recently completed the extension of their Office Building, which was started last year. The contract and plans included air-conditioning and fluorescent lighting throughout, resulting in a modern office building.

The original office was built over thirty years ago, on the company's beautifully landscaped grounds. The increased personnel and introduction of modern working equipment during the course of the years, made necessary a larger office structure. The plans were considered several years ago and final decison made because of the greatly increased flow of business starting early last year.

While the improvements and addition have been modest the office is both beautiful and efficient in its arrangement.

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Foresees Down Trend in Newsprint Industry

Opinion In Some Quarters Reflects Expectation of Lower Production In Second Quarter of This Year—No Immediate Power Shortage Foreseen—Abitibi Case May Go Before Judicial Committee.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 4, 1942—The trend of operations in the newsprint industry has turned downward in recent weeks, according to some opinion in the trade and this is reiterated by "Financial Counsel" reports. After a record first quarter for the year, in which newsprint shipments rose 115,922 tons, or 15%, the value of newsprint and pulp exports gained over $14,000,000 or 29% and the profits (before depreciation, interest and taxes) of a leading unit like Abitibi Power and Paper Company, jumped nearly $1,000,000, or 6% over the corresponding 1941 period, recent indications are that the figures for the second quarter will probably show a considerable decline.

The general experience may not quite parallel that of Abitibi, which estimates its April newsprint and emergency paper shipments at 28,000 tons, against the March total of 39,000 tons, and the April, 1941, level of better than 34,000. Some units are still operating at a high rate (Great Lakes, as reported a few days ago, is running virtually at capacity), but the Abitibi estimate points a trend that applies pretty well to the industry as a whole, at least in direction, if not in degree. Moreover, according to newsprint operators, there are fairly substantial reasons for expecting the downward trend to continue for some time, creating a rather lean outlook for the balance of the year.

No Power Shortage Expected This Year

The question that seems to be uppermost in the minds of those vitally interested in the newsprint industry is when and to what extent mills are to be affected by the threatened switching of electrical power from the paper industry to the fast-expanding aluminum industry. This and the fear that later in the year there may be a shortage in transportation facilities and the affect of the announced increase of $3 a ton to United States buyers, undoubtedly were responsible for protection buying and the increase in inventories. This is said to have kept shipments well up ahead of last year for the initial quarter this year in spite of the fact that the trend of newsprint consumption in the United States was already perceptible downward as was also the case with the overseas market.

It seems clear now, however, that these considerations are not such big factors in this year's business as was first feared. It is unlikely that there will be any shortage of power for the industry this year, whatever may be the case later on when the huge aluminum plants contemplated or under construction get into operation. The power diversion outlook is not clear yet, but there will be considerable slack to be taken up if the present rate of consumption continues downward. Only H. J. Symington, power controller, knows what power conversion will be necessary and he is not saying at present. The centre of the aluminum manufacturing is in the Saguenay region. Some of the companies that may be affected are Price Brothers & Co., Lake St. John Power and Paper, Donohue Brothers, Anglo-Canadian, Consolidated, Canadian International Paper, James Maclaren and St. Lawrence Paper Mills.

Price Situation Easier Now

Since the O.P.A. ordered a 60-day stay on the price increase, pending further investigation, which may or may not allow a price advance, that situation has eased for the present. The state of shipping facilities a few months hence can only be guessed at but in view of the fact that the movement of crops in the autumn always increases the demand for shipping and that by that time war-time production will have almost reached its maximum peak in Canada, it is clear that if the shipping agencies can handle all the business offered, there can scarcely be any great excess of unused facilities.

Until considerably more detailed information is available as to when the power controller plans to issue his order for the transfer of power from the newsprint industry to the aluminum industry, it will be impossible to estimate the tonnage affected or hazard a guess as to the financial outlook for some of the companies which may have to make a "contribution" of power to the new industry.

Meanwhile, the industry is waiting and hoping that the expected order will be made as soon as possible, so that steps may be taken to bring about the necessary adjustments with the minimum of dislocation.

Abitibi May Appeal to Judicial Committee

Abitibi Power and Paper Company, Ltd., was granted leave to appeal to the judicial committee of the privy council by the Ontario court of appeal in a judgment delivered at Osgoode Hall this week. The company sought the appeal against a judgment of the apellate court which upheld a judgment of Mr. Justice Middleton granting an order for sale of the assets and undertakings of the company.

The judgment of the court was written by Chief Justice Robertson and concurred in by Mr. Justice Masten and Mr. Justice McTague. He expressed the opinion that the moratorium act postponing any sale proceedings in connection with Abitibi was a new issue and a question of great public importance.

"The power of the provincial legislature to pass the act," he said, "to prevent a sale at this time, notwithstanding the terms of the mortgage and the judgment of its enforcement, is a new issue in the action. Of its importance there can be no doubt, and under these special circumstances I am of the opinion that the application to admit this appeal to the judicial committee of the privy council should be granted."

"The Abitibi Moratorium Constitutional Question Act, 1942," said Chief Justice Robertson, "is not, in my opinion, one that is within the constitutional power of the legislature of Ontario to enact. The court of appeal, the highest court in the province,

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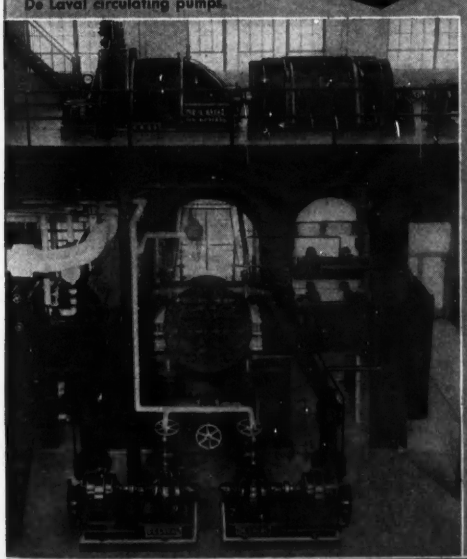
De Laval multistage turbine driving 4000 kw. (5000 kw. maximum) Crocker-Wheeler 60 cycle alternator in Wyandotte, Mich. Municipal power plant. The turbine receives steam at 425 psi. and 720° F. and exhausts to condenser. It is also arranged for bleeding at the 6th, 11th and 15th stages. A similar unit rated at 6000 kw. has since been ordered.

▼ Condenser installation, showing duplicate motor-driven De Laval circulating pumps.



WHEELS and shafts are of nickel steel, buckets and vanes of stainless steel and monel, and casings of cast molybdenum and carbon steels and molybdenum cast iron, according to steam temperatures.

Separation of water in the low pressure stages materially improves economy and reduces blade erosion.

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having already given its judgment on the matter in controversy, the legislature, by this act, assumes to grant to one of the parties to the action, a right to appeal to the judicial committee from the judgment. As appears by the preamble, the purpose of the act is to obtain the opinion of the judicial committee upon a constitutional question that the attorney-general cannot conveniently bring before it under the Constitutional Questions Act. This insolvent company is therefore, placed in a favored position of not being required to give any security as other appellants are required to do, and is relieved from all the restrictions of the Privy Council Appeals Act as if it were an appeal under the Constitutional Questions Act."

His lordship added: "It may well be that even if the statute is found to be valid, it will at best postpone the inevitable. However, that may be, it seems improbable that a sale for cash will be carried to completion without some way being found to fulfill the desire of the legislature that the question of constitutional validity of the act be passed upon by the court of the last resort."

OPA Issues Paper Board Amendment

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1942—Maximum manufacturers' prices for specialty paper board, and many processed paper board items not covered previously, are established in Amendment No. 2 to Revised Price Schedule No. 32 (Paper Board Sold East of the Rocky Mountains) announced today bp Price Administrator Leon Henderson following issuance of the General Price Regulation.

The amendment has the effect of establishing maximum manufacturers' prices for all paper board, including specialty paper boards which were not included in the original schedule. The definition of "paper board" has been expanded by the amendment to include "all kinds, grades, types, calipers, colors and patterns of paper board."

The schedule covers paper poard used in the manufacture of folding paper cartons, set-up boxes, corrugated or solid fibre boxes, corrugated or solid fibre sheets, single faced rolls. The amendment extends the coverage to include: (1) tag stocks, file folder stocks; (2) press board, imitation press board and paper boards used in the manufacture of electrical equipment; (3) bogus bristols and mill blanks; (4) fibreboard used in the manufacture of footwear, and leather board for any purpose (5) container boards used for foods and purposes other than foods; (6) paper board for egg fillers, egg flats and molded pulp packing material for eggs; (7) binders boards (8) clay coated folding boxboard and clay coated hardboard; (9) screening board and (10) miscellaneous specialty paper boards not covered specifically by the schedule.

The amendment prescribes the method by which a producer can determine maximum prices he may charge for paper board and specialty paper board not previously covered by the Revised Price Schedule! The determination of maximum prices is reached by reference to prices charged by producers for such items covered in the amendment during the base period from October 1, 1940, to October 15, 1941.

Until now, maximum prices for additionally processed paperboard and specialty paper board were maintained by most of the manufacturers at the levels requested by OPA. These prices were determined from the same formula now used in the amendment. A small number of the producers, however, failed to agree not to exceed the prices at the level prevailing during the period from October 1, 1940, to October 15, 1941, and some of them raised prices so that their prices were higher in March 1942, than those which generally prevailed in their industry.

"Thus the use of the March, 1942, base period in the amendment would have placed those manufacturers who cooperated with OPA at a disadvantage," Mr. Henderson stated. "In addition, the March, 1942, period would not have provided a sufficiently broad and representative period for the pricing of any substantial number of items since the manufacture of paper board and specialty paper board items is frequently seasonal. The base period used in the amendment for the determination of maximum prices is in my opinion, fair and equitable."

The Maximum prices a manufacturer now may charge for additional processing and for any of the commodities covered by the amendment is the highest price he charged during the Period October 1, 1940, to October 15, 1941. Zone differentials are provided in the amendment in conformity with the practice of the industry.

In the event items were not sold during this base period the maximum price is the highest list price during the base period. Where there was no list price an application for approval of proposed prices for these articles must be submitted by the producer to OPA. Affidavits must accompany the application setting forth price and cost data used to justify the proposed prices.

Maximum prices for export sales of articles covered by the amendment are established according to provisions of the Export Maximum Price Regulation which becomes effective April 30.

Sorg Pulp Co. Expands

The Sorg Pulp Company, Ltd., plant at Port Mellon, B. C., on Howe Sound, has been considerably extended during the past few months, and while the work of enlarging the company's facilities is not yet completed, the contractors, Dominion Construction Company, Ltd., are now putting the finishing touches to the major part of the extension program. Since last September the company has completed the following works:

Extension of old machine room with an addition 100 feet long and 52 feet wide. Construction of a new machine room measuring 260 by 44 feet. Installation of a new drying machine, with adjoining lean-to to house the turbine to drive the drying machine and to accommodate a new mill store. Erection of new electrical, machine and blacksmith's shops. Extension of boiler room. Construction of a new recovery room which will double the capacity of the recovery department. Installation of a pressure water filter plant consisting of seven steel filter tanks and a 60,000 gallon wash water tank of Douglas fir construction. Erection of a new engine room.

Further work to be carried out later will include a new lime recovery installation, addition to the wood room and revamping of the hog fuel storage and handling facilities.

Many of the new buildings are of timber construction, the material being cut in the company's own mill, which is at present sawing only for its own requirements.

Another Beckman pH Development . . .

NEW X-9 GLASS ELECTRODE

Further Simplifies pH Control!

Withstands Severe Abrasion in Beaters, Pulp Flow Lines, etc., Insuring Longer Life, Lower Maintenance, Better pH Control!

When Beckman pioneered modern glass electrode pH equipment, pH control in pulp and paper mill operations was greatly simplified over previous methods. This equipment—in both manual and automatic types—is today the standard for pH control in leading pulp and paper mills, coast to coast. It does an outstanding job of conserving chemicals . . . of giving better control of paper quality . . . of increasing the efficiency and decreasing the cost of plant operations!

Now Beckman brings another major advancement to the paper industry—an advancement that makes pH control still easier and more convenient in paper operations . . . *the new X-9 Glass Electrode.* This new Beckman Electrode is particularly designed to meet the unusually severe operating conditions found in paper and pulp mill operations . . . in beater tanks, flow lines, and similar locations where abrasion shortens the life of conventional glass electrodes. This new electrode makes possible economical and convenient pH control even under the most difficult conditions!

HIGH ABRASION RESISTANCE!

The walls of the X-9 electrode are much thicker than those of ordinary glass electrodes . . . stand up under the severe abrasion of continuous operation in beaters, pulp flow lines, etc. and similar locations where abrasion is severe.

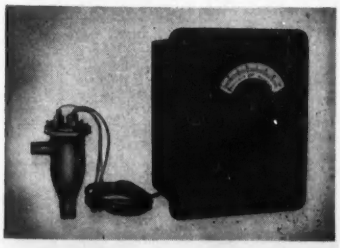
UNUSUAL RUGGEDNESS!

To withstand rough plant usage, this X-9 electrode has a ruggedness far above ANY glass electrode heretofore available. **It will withstand a direct push of more than 100 pounds without damage.** That means long life in even the roughest operations!

The X-9 Electrode can be used with all Beckman pH instruments—both automatic and manual. Get full details from your dealer . . . or write direct!

America's most advanced pH equipment

No other make or type of pH equipment available today offers as many far-reaching advancements as BECKMAN • It is the only glass electrode pH equipment that can be used for continuous operation in boiling liquids • It is the only glass electrode pH equipment that can be used in highly alkaline solutions, even in the presence of sodium ions • It is the only glass electrode pH equipment providing a multiple electrode switch, by means of which an accurate pH record of as many as SIX electrode stations can be maintained—automatically and continuously—by ONE pH instrument. These are only a few of the outstanding pH developments available in Beckman equipment exclusively!



← Illustrated at left is the Beckman Automatic pH Indicator—the ideal instrument for modern pulp and paper mill operations. Operates continuously from 115 V A.C. mains (no batteries!) and can be installed to give not only continuous indication of pH but also a written Record and completely automatic Control over the pH in your mill operations. Ask for Bulletin 16 for complete details on this instrument!

NATIONAL TECHNICAL LABORATORIES • SOUTH PASADENA, CALIF.

HERE'S THE RECORD OF *Beckman* ACHIEVEMENTS

The Beckman "X-9" Electrode is one more development in the long list of Beckman "firsts" that have firmly established this pH equipment as the finest available for ANY pH measurement or control problem . . .

• The first portable glass electrode pH meter—transforming the glass electrode from a laboratory curiosity into a practical working tool—was a Beckman instrument. It was this development that paved the way for the great present-day advancements in pH control.

• The self-balancing electronic potentiometer circuit was another important Beckman development . . . and is still available only in Beckman equipment.

• The first internally shielded electrode system was Beckman developed. This advancement is of particular importance to industrial users for it permits electrodes to be used anywhere—in grounded flow lines, vats and tanks—at remote distances from the meter—without danger of electrostatic interference.

• The first completely automatic glass electrode pH indicator, recorder and controller was pioneered by Beckman. Operating on 115 V A.C. current, this instrument made automatic process control accurate, convenient, practical . . . and is today widely used by industries in all parts of the world.

• The only High Temperature Glass Electrode available today is a Beckman development . . . perfected after a long period of research work in which an entirely new type of electrode glass was produced. Designed for continuous operation at temperatures to 100° C. (212° F.), this electrode is rapidly assuming great importance in industrial processes.

• Another important — and exclusive — Beckman development is the Beckman High pH Electrode, the only glass electrode that can be used for measuring high pH values even in the presence of sodium ions. This vital development extends the convenience and accuracy of the glass electrode to many new applications where alkaline solutions in combination with sodium ions have heretofore presented difficulties.

Continuous research maintains Beckman leadership!

Beckman THE LEADING NAME IN pH

Some Mill Orders For April Show Decline

Report of Wisconsin Industrial Commission Indicates High Level of Employment and Payrolls Was Reached During March—April Figures Expected To Reflect Some Decline — Other Mill News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 4, 1942—While the month of April has been showing an easing off of the tension in some of the Wisconsin mills, the swing was still upward in March, the employment reports of the Wisconsin Industrial Commission reveal. Coated and book mills have been experiencing a falling off in the volume of orders for the commercial field, and a few of the bond mills have noticed a slight let-up. Carton makers for the appliance field are also losing volume in view of the freezing orders for the duration of the war. When the April reports are issued, therefore, these reversals of trend are expected to be recorded.

March employment was 24,100 workers, compared with 23,900 in February, and 22,400 in March of 1941. The gain was 0.7% for the month, and 7.5% for the year. Printing and publishing reflected a somewhat more static condition, with 10,000 workers on the payrolls in both February and March, as compared with 9,900 in March a year ago. This was a gain of 0.9% over a year ago.

Paper mill wages were up 1.5%, with $785,000 in March and $773,000 in February (per week). Weekly payrolls stand at 25.9% over March, 1941, when mills were paying out $624,000. Average hourly earnings have risen to 74.9 cents, and weekly pay checks averaged $32.56 for 43.5 hours. Printing and publishing showed a decline of 0.3%, from a weekly total of $361,000 in February to $360,000 in March. Rolls are up 2.1% over March, 1941, however, with a total a year ago of $352,000 per week. Printing plants now average 89.5 cents per hour or $35.98 per week for an average of 40.2 hours.

Carton mills and specialty plants in the Milwaukee metropolitan area showed signs of the tapering off, since 19 plants reporting had a drop of 2.0% in the number of workers in March as compared to February. There were 2,113 employed in March. Printing and publishing plants, however, were still maintaining their volume. since 41 plants reporting had 3,016 workers, a gain of 0.4% over February. Paper plants had average weekly payrolls of $61,135, a drop of 2.4% from the previous month. The Milwaukee hourly rate averaged 68.1 cents for 42.5 hours, or $28.93 per week. Payrolls of the printing plants, averaging $108,334 weekly, were 1.8% under February. Hourly wage averages 82.2 cents for 39 hours and $35.92 weekly.

Consolidate Increases Wage Rates

Hourly base rates of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., were increased four cents by the terms of the twenty-fifth annual contract negotiated with four major labor unions last week. The change becomes effective May 1, and steps up the base pay from 66 to 70 cents.

Only one other major change was made in the contract. The two six months' probationary periods before graduating to the established wage scales have been shortened to two three-month periods. Beginners will now receive 64 cents per hour for the first three months, 67 cents for the next three months, and the standard scale of 70 cents thereafter.

The contract covers 1,900 employees of the company's mills at Wisconsin Rapids, Stevens Point, Biron and Appleton, Wis. Negotiations were carried on with the unions by George W. Mead, president; Stanton W. Mead, vice-president and treasurer; Leo J. Barrette, general employment manager and the managers of the four divisions: C. E. Jackson, Wisconsin Rapids; Warren Beadle, Biron; James Rush, Stevens Point, and C. K. Boyer, Appleton. Unions represented were the locals of the International Brotherhood of Papermakers, International Brotherhood of Pulp, Sulphite and Paper Mill Workers, the International Brotherhood of Electrical Workers, and the International Association of Machinists.

Water Supply Good in Wisconsin River

With reservoirs filled to 87% of capacity, paper mills and hydro-electric plants along the Wisconsin River are assured an adequate water supply at least until September, in the opinion of M. W. Kyler, manager of the Wisconsin Valley Improvement Company, Wausau, Wis. At this same time last year the storage was 64%.

A dry spell in April caused some drain on the reservoirs, but heavy rains have occurred since which permit normal water flow to take care of power needs. Hydro-electric plants have been able to operate at capacity, requiring practically no purchases of power from steam plants which are tied into the system. It is believed this favorable situation will obtain even if there is a dry summer. There has been ample power for the production emergency. Daylight saving has but the generating load of public utilities in the area 7½%.

Wausau Iron Works on War Work

The Wausau Iron Works, Wausau, Wis., which has been manufacturing equipment for the paper mill field in the past, has converted nearly 90% of its capacity for war production purposes, according to John J. Heinzen, president and general manager. Contracts awarded the concern are now largely for prefabricated parts for shipbuilding. The plant is operating 96 hours weekly on two shifts.

Construction Work Halted by Dispute

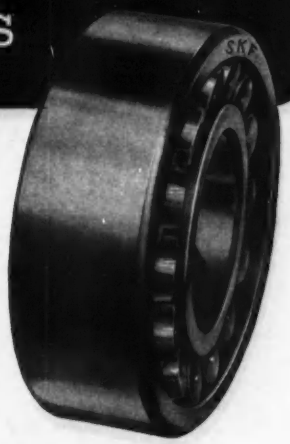
Reconstruction work at the Wausau Paper Mills Company, Brokaw, Wis., was interrupted last week when 110 men, including 85 common laborers and 35 carpenters, walked off the job because of a labor dispute. They are employed by the C. R. Meyer & Sons Company, Oshkosh, Wis., which has the contract to rebuild portions of the mill wrecked last Labor Day by storms which destroyed the company's

BUILT BY BELOIT IRON WORKS

SKF

BALL AND ROLLER BEARINGS

Production *moves* AHEAD *with* SKF



Inside The St. Joe Paper Company, SKF Bearings on a 213" Kraft Machine, designed for 1500 feet per minute, are helping the Paper Industry march on to new triumphs in War Production. For Beloit engineers, knowing full well that today's high speeds in paper manufacture demand modern bearing design, selected SKF's for the 94 dryers that are divided into four independent sections. They know that the three steel knife edges, serving as rockers and supporting the housing on the tending side, permit the housing to move axially, allowing free expansion and contraction in the dryer cylinder . . . that the self-aligning feature enables SKF's to compensate for misalignment . . . that wear elimination not only insures permanent cylinder position but relieves felt strain. The result is that production time is full time, and bearing trouble is avoided. 5035

BUY defense BONDS

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILADELPHIA, PA.

power dam. Differences over wages were said to have caused the walkout, and conferences were being held in an attempt to iron out the dispute. The mill was operating as usual, however, since the mill employees were not involved. The company has reached no decision yet as to the rebuilding of its dam.

Gilbert Employees Fingerprinted

All employees of the Gilbert Paper Company, Menasha, Wis., will hereafter be required to carry identification cards as a wartime protection. Each has been fingerprinted and has had a photograph taken. The preparations were carried on with the assistance of the Menasha police department.

Students Visit Paper Institute

Two busloads of chemical engineering students of the University of Wisconsin at Madison spent a day in the Fox River Valley last week. They visited the Institute of Paper Chemistry at Appleton, and also several paper mills.

Consolidated Plans Village at Du Bay

The Consolidated Water Power and Paper Company is planning to establish an attractive village in the near future at its Du Bay power dam, now under construction on the Wisconsin River near Knowlton, Wis. The location will be on the shore of Du Bay lake, which will be created when the waters are impounded by the dam. Sand is being hauled to the site for a swimming beach. Homes will be built at the location. George W. Mead, president, revealed the plans but said nothing probably would be done while the war is in progress.

Father of D. K. Brown Dead

D. K. Brown, first vice-president and general manager of the Neenah Paper Company, Neenah, Wis., received a cable last week informing him of the death of his father, John Brown, at Cleveleys, Lancashire, England. The father was 82 years old.

Ceiling Prices for Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 4, 1942—The Wartime Prices and Trade Board has announced ceiling prices for pulpwood produced by farmers, settlers, and operators, for use in Canada, in the three provinces of Quebec, New Brunswick and Nova Scotia.

The statement said Quebec Province has been divided into 27 natural producing districts, and a schedule of ceiling prices which may be demanded or accepted is established for each district. Rough unpeeled pulpwood ranges from $6.50 to $8 per cord, afloat in main rivers; from $6.50 to $9.25 loaded on railways cars, and from $7 to $8 stowed on schooners. Peeled pulpwood loaded on railway cars ranges from $9 to $12, and loaded on schooners from $9.50 to $10.50.

The board said maximum prices for New Brunswick are uniform throughout the province. Rough spruce loaded on railway cars may bring up to $8 per cord. Poplar may sell up to $5.50 and jack or princess pine up to $7. Delivered at railway sidings or piled in buyers' yards, rough spruce may bring $7.50, poplar $5, and jack or princess pine $6.50 per cord. Peeled wood prices may be up to $2.50 higher per cord in each case.

The statement added that in Nova Scotia, ceiling prices for rough spruce, poplar, jack or princess pine have been established at $8, $5.50 and $7 per cord, respectively, f.o.b. railway cars. "Pulpwood of any species which is sap-peeled or hand-shaved may be $2 per cord additional. The ceiling prices for rough pulpwood, delivered alongside truck roads, is established at $6.50 for spruce, $4 for poplar and $5.50 for jack or princess pine. Nine dollars per cord, $6.50 and $8, respectively, are the ceilings for rough spruce, poplar and jack or princess pine, f.o.b. steamers, according to the terms recognized as regular trade practice. Sap-peeled or hand-shaved pulpwood in each instance is up to $2 per cord additional."

The board said further that ceiling prices for large operators, described in the order as "any person carrying on regular timber operations on timber licenses or leases or on freehold lands in the three provinces and who produce in excess of 200 cords of pulpwood per annum," are to be not more than 15% above the prices fixed in the schedules, and in every case are subject to approval of Timber Adminstrator Nicholson.

Licensed brokers or dealers are entitled to add to the scheduled maximum prices the usual brokerage or fees established by trade practice in the various districts for financing and handling pulpwood purchased for resale.

Spruce pulpwood is defined in the order as meaning a mixture of spruce and balsam or fir, the larger percentage of which is spruce, the balsam or fir content being that established over the years by local trade practice.

Contracts for the production, sale and delivery of pulpwood, the board said, are usually made well in advance of actual cutting, hauling and shipping operations. The statement emphasized that the ceiling prices set are exclusively for pulpwood produced for domestic consumption and do not apply to pulpwood for export.

U. S. Stores More Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 6, 1942—Since the beginning of the war the Government Printing Office has rented three large warehouses to store paper for emergency purposes.

The Printing Office itself has large storage space for paper which is large enough for all peace time purposes. However, it is now apparently necessary to store so much paper that in addition to its own storage space the Printing Office has rented a large warehouse in Washington, another in Rosslyn, Md., which is just adjacent to Washington and a third in Baltimore, Md. The Printing Office has never had as much storage space for paper as it has at this time.

W. L. Carter Made Bank Director

BOSTON, Mass., May 4, 1942—Winthrop L. Carter, president of Nashua Gummed and Coated Paper Company, Nashua, N. H., has been elected a director of Second National Bank of Boston.

Mr. Carter is also a director of Carter Rice & Co., Berwin Paper Corporation, Canadian Nashua Paper Company, Mutual Boiler Insurance Company, and Nashua Package Sealing Company, and is a member of the industrial advisory committee of the Federal Reserve Bank of Boston. He is also chairman of the war bond committee for the state of New Hampshire.

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OPA Calls Meetings To Discuss Prices

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1942—The first of a series of more than 40 meetings with representatives of the various branches in the paper industry, including manufacturers and wholesalers, which the Office of Price Administration has called for the purpose of discussing provisions of the General Maximum Price Regulation and other price actions, will be held at 11 A.M. Thursday, May 7, at the Roosevelt Hotel, New York City.

Approximately 700 wholesale paper merchants are expected to attend this session. OPA price executives and attorneys will discuss the background and purpose of the General Maximum Price Regulation, and will explain those provisions applicable to the wholesale paper trade.

Another group of 375 wholesalers will meet in Chicago the following day at 11 A.M. at the Morrison Hotel. About 100 were invited to attend a meeting arranged tentatively for May 11 in Denver and 200 are expected to be present at 11 A.M. at the Palace Hotel, San Francisco on May 14.

Similar meetings for other branches of the paper trade will be held in the following two weeks. At these meetings also, there will be explanation of the General Maximum Price Regulation and its application to the particular groups present.

The tentative meetings, subject to changes in date and place, and to which all members of the trade—whether or not they have received invitations—are invited as follows:

Group	City-Location	Date	Time	Prospective Attendance
Industrial Papers	New York Commodore Hotel	May 12	10:00 A.M.	300
Printing Papers Writing Papers	New York Commodore Hotel	May 12	10:00 A.M.	300
Papeteries Greeting Cards Tablets Blank Books	New York Commodore Hotel	May 12	2:30 P.M.	200
Newsprint	New York Commodore Hotel	May 12	2:30 P.M.	15
Industrial Papers Printing Papers Writing Papers	Chicago South Ballroom Stevens Hotel	May 15	10:00 A.M.	300
Papeteries Greeting Cards Tablets Blank Books	Chicago Stevens Hotel Boulevard Room	May 14	2:30 P.M.	200
Corrugated and Solid Fiber Boxes	New York City Commodore Hotel	May 14	2:30 P.M.	120
Corrugated and Solid Fiber Boxes	Chicago Stevens Hotel North Assembly Room	May 14	2:30 P.M.	90
Corrugated and Solid Fiber Boxes	San Francisco Palace Hotel California Room	May 14	2:30 P.M.	30
Set-Up and Folding Cartons	New York City Commodore Hotel	May 15	10:00 A.M.	500
Set-Up and Folding Cartons	Chicago Stevens Hotel Boulevard Room	May 15	10:00 A.M.	500
Set-Up and Folding Cartons	San Francisco Palace Hotel California Room	May 15	10:00 A.M.	100
Paper Board and Specialty Paper Boards	New York City Commodore Hotel	May 15	2:30 P.M.	150
Paper Board and Specialty Paper Boards	Chicago Stevens Hotel South Ballroom	May 15	2:30 P.M.	100
Paper Board and Specialty Paper Boards	San Francisco Palace Hotel California Room	May 15	2:30 P.M.	25
Wholesale Paper	New York City Roosevelt Hotel Main Ballroom	May 7	11:00 A.M.	737
Wholesale Paper	Chicago Morrison Hotel Mural Room	May 8	11:00 A.M.	374
Wholesale Paper	Denver, Colo. Albany Hotel Mirror Room	May 11	11:00 A.M.	95
Wholesale Paper	San Francisco Palace Hotel Comstock Room	May 14	11:00 A.M.	216
Wholesale Paper	Kansas City, Mo. Continental Hotel Green Room	May 12	11:00 A.M.	170
Wholesale Paper	Dallas, Tex. Adolphus Hotel Palm Garden	May 13	11:00 A.M.	90
Wholesale Paper	Atlanta, Ga. Biltmore Hotel	May 15	11:00 A.M.	110
Wholesale Paper	Boston, Mass. Bradford Hotel Roof Ballroom	May 8	11:00 A.M.	303
Wholesale Paper	Cleveland, O. Cleveland Hotel Red Room	May 11	11:00 A.M.	185
Wholesale Paper	Baltimore, Md. Southern Hotel Ballroom	May 13	11:00 A.M.	311
CONVERTED PRODUCTS				
Standard Grocers & Variety Bags	New York City Commodore Hotel	May 11	10:00 A.M.	40
Envelopes	New York City Commodore Hotel	May 11	2:30 P.M.	165
Tubes, Cores Cones, Spools & Metal-End Cans (Eastern Div.) Dishes, Spoons, Plates Lace Paper Paper Milk Bottles	New York City Commodore Hotel	May 11	2:30 P.M.	106
Tags (All kinds) Gummed Paper Glazed & Fancy Papers	New York City Commodore Hotel	May 12	10:00 A.M.	118
Cups & Containers Milk Bottle Caps & Sanitary Closures Liquid Tight Containers Drinking Straws	New York City Commodore Hotel	May 12	10:00 A.M.	148
Specialty Paper Bags & Envelopes Crepe Paper Paper Shipping Sacks	New York City Commodore Hotel	May 12	2:00 P.M.	126
Waxed Paper	Chicago Stevens Hotel Conference Room	May 13	10:00 A.M.	69
Tubes, Cores Cones, Spools & Metal-End Cans (Western Div.) Tickets, Coupons & Checks Book Matches (All Kinds)	Chicago Stevens Hotel North Assembly Room	May 13	2:30 P.M.	101
Tissue (All Kinds Except Crepe)	Chicago Stevens Hotel Boulevard Hotel	May 13	2:30 P.M.	146
Tissue—Informal Industry Meeting	Chicago Chicago Regional Office	May 14 May 15	10:00 A.M. 10:00 A.M.	20 20

Oversupply of Waste Paper

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 4, 1942—An overwhelming response to the salvage drive has caused a bottleneck in the disposal of tons of waste paper, the Camden Defense Council was told on Saturday last.

"Camden junk yards are so full and piled high with paper, they create a fire hazard," Williard C. Schriber, coordinator of civilian defense, informed the council. "There is a stalemate because paper mills are unable to handle all material being saved by civilians. Fire Chief John H. Lennox agreed with Schriber that the huge piles of paper create a fire menace. John O'Neill said the paper mills are only taking cardboard. Schriver said freight cars are tied up with cargoes of thousands of tons of paper and the mills won't accept any more until their present stocks are moved. The council referred the problem to the state council.

TWENTY-THIRD ANNUAL

CONVENTION

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JUNE 16-17-18, 1942

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MAINTENANCE and CONSERVATION

IN

Pulp and Paper Mills

Write Hotel For Reservations

The American Pulp and Paper Mill Superintendents Association, Inc.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending May 2, 1942

STOCKS

	High	Low	Last
A. P. W.	....	....	....
Armstrong Cork Co.	24¼	22½	23½
Celotex Corp.	7⅛	6⅝	6⅞
Celotex Corp., pf.	70	69¾	70
Certain-Teed Products Corp.	1⅞	1¾	1⅞
Certain-Teed Products Corp., pf.	27	26⅜	27
Champion Paper & Fibre Co.	15	14⅝	14⅝
Champion Paper & Fibre Co., pf.	94	93	94
Congoleum Nairn Co.	12⅞	12½	12⅞
Container Corp. of America	13	12¼	12⅞
Continental-Diamond Fibre Co.	7⅞	7⅝	7⅞
Crown-Zellerbach Co.	10⅜	10	10¼
Crown-Zellerbach Co., pf.	78	78	78
Flintkote Co.	11¼	10⅝	11
Robert Gair	1¾	1⅝	1¾
Robert Gair, pf.	9½	9½	9½
International Paper Co.	12⅜	11⅞	11¾
International Paper Co., pf.	52⅝	51¼	52⅜
Johns-Manville Corp.	52¼	50⅝	51⅞
Johns-Manville Corp., pf.	125	125	125
Kimberly Clark Corp.	....	....	....
MacAndrews & Forbes	16	16	16
MacAndrews & Forbes, pf.	124	124	124
Masonite Corp.	23½	22¾	22¾
Mead Corp.	7⅛	6⅞	7⅛
Mead Corp., pf.	75	74	74
Paraffine Companies, Inc.	21½	20⅝	21½
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	8⅜	8	8⅜
Rayonier, Inc., pf.	24⅝	24⅛	24⅛
Ruberoid Co.	18¼	17¼	18
Scott Paper Co.	27½	26½	27½
Scott Paper Co., pf.	114	113½	114
Sutherland Paper Co.	19¾	19½	19½
Union Bag & Paper Corp.	8⅝	8	8⅝
United Paperboard Co.	3¼	3¼	3¼
U. S. Gypsum Co.	43	42	43
U. S. Gypsum Co., pf.	160	159	159
West Virginia Pulp & Paper Co.	14	13	13

BONDS

Abitibi Pulp & Paper Co. 5s '53	50	50	50
Celotex Corp. 4½s '47	96¾	96¾	96¾
Certain-Teed Products Corp. 5½ '48	86	85	86
Champion Paper & Fibre Co. 4¾s '50	....	....	....
Champion Paper & Fibre Co. 4¾'s '50	....	....	....
International Paper Co. 6s '55	105	104¾	104¾
International Paper Co. 5s '47	103⅝	103½	103½
Mead Corp. 4½s '55	....	....	....
West Virginia Pulp & Paper Co. 3s '54	103	103	103

New York Curb Exchange

High, Low and Last for Week Ending May 2, 1942

STOCKS

	High	Low	Last
American Box Board Co.	....	....	....
Brown Co., pf.	....	....	....
Great Northern Paper Co.	30	30	30
Hummel-Ross Fibre Corp.	4¼	4¼	4¼
National Container Corp.	....	....	....
St. Regis Paper Co.	1⅜	1⅜	1⅜
St. Regis Paper Co., pf.	109¼	108¾	109
Taggart Corp.	2⅝	2⅝	2⅝

BONDS

American Writing Paper Co. 6s '61	81	80	80

Abitibi Earnings Up

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 4, 1942—Abitibi Power and Paper Company, Ltd., report earnings for March at $840,567 prior to audit and charges for depreciation and bond interest, compared with $803,988 in February and $687,529 in March, 1941. Included in March, 1942, earnings is $176,405 received in United States exchange.

For first quarter of current year, earnings on the above basis were $2,668,258, compared with $1,682,437 in the corresponding period a year ago.

Shipments of newsprint and substitute products in March, according to G. T. Clarkson, receiver and manager, were 39,339 tons compared with 37,264 tons in February and 38,196 tons of newsprint in March, 1941. Present indications are that shipments of newsprint in April will be about 28,000 tons, compared with 34,476 tons in April, 1941.

Shipments of sulphite and ground wood pulps in March were 11,430 tons, compared with 9,451 tons in February and 6,537 tons of sulphite pulps in March, 1941.

Present indications are that shipments of sulphite and groundwood pulps will be about 11,300 tons in April, 1942, compared with 7,043 tons of sulphite pulps in April, 1941.

Another distribution on account of principal was made to bondholders of Abitibi last week. The distribution amounted to $4,826,700, or $100 for each original $1,000 par value bonds. This will bring the total paid to date, on account of principal, to $11,101,410, or $230 per $1,000 original principal amount. Although the bonds are payable in New York funds as to principal and interest, the distributions have been made in Canadian funds.

Puget Sound Makes Good Report

Operations of Puget Sound Pulp and Timber Company in the three months ended March 31, 1942, resulted in an indicated net profit of $230,053, after provisionally seetting aside $629,599 for Federal taxes, according to the company's interim report. This compares with $226,696 net profit, after $431,158 for taxes, in the first three months of 1941.

Reported pulp production for the quarter rose to 42,723 tons, compared with 26,500 tons in the like period of 1941. Net sales were $2,373,265, against $1,600,668 in the first quarter last year.

Operating profit, after all charges except Federal taxes, were stated at $859,652 for the March quarter, compared with $657,854 in the three months ended March 31, 1941.

Pending determination of Federal tax rates applicable to this year's earnings, the company is reserving 73.24% of operating profit for taxes, compared with 65.54% tax provision last year.

The 73.24% tax rate is shown in the report to be equal to $2.74 for each $1 or net profit after tax, to $1.93 per share of common stock outstanding, and to $3.85 for each $1 of common stock dividends paid for the quarter. Taxes provided in the first quarter of last year were equal to $1.90 per dollar of net profit, to $1.32 per common share, and to $2.64 per dollar of quarterly common dividends.

Continental-Diamond Loses

The Continental-Diamond Fibre Company and wholly owned domestic subsidiaries reports for the March quarter, a net income of $106,912, against $130,103 last year, after $25,000 provision for contingencies in each period.

Canada Paper Profits Up

The Canada Paper Company for 1941 reports a net profit of $389,353, against $263,085 the year before.

Brown Statement Shows Good Improvement

The report for 1941 of Brown Company, manufacturer of pulp, paper and other cellulose products, and its wholly owned Canadian subsidiary, Brown Corporation, was received by stockholders May 1.

In his statement to stockholders, H. P. Carruth, vice president, said "As at the close of business November 29, 1941, reorganization of Brown Company was completed in accordance with the plan approved by the Federal Court of the Southern District of Maine. The accompanying financial statements reflect this reorganization as well as the operations for the year 1941."

Net Profit $1,484,353

Brown Company reports for the fiscal year ended November 29, 1941, net profit of $1,484,353 after depreciation, interest, income and excess profits taxes, compared with a net loss of $250,378 in 1940. No dividends were received in 1941 by Brown Company from Brown Corporation, its Canadian subsidiary. Brown Corporation reports (in Canadian dollars) a net profit of $1,556,928 after all charges, compared with a net profit of $921,827 in 1940.

As the result of the higher rate of operation in 1941, maintenance and repairs were somewhat increased over 1940, Brown Company reporting $1,350,625 and Brown Corporation $670,866 in 1941 as compared with $1,173,608 for Brown Company and $512,582 for Brown Corporation in 1940.

Expenditures for improvements and replacements in Brown Company's plants were $752,627 and in Brown Corporation's plants, $297,201.

Working Capital Greatly Increased

Brown Company's working capital at November 29, 1941, was $7,620,240, an increase during the year of $5,950,851. Of this increase, $3,297,258 resulted from current operations and the balance from the application of funds advanced by the R. F. C. and other transactions in connection with reorganization. By the terms of the reorganization plan, interest totaling $1,284,930 has accrued on the new general mortgage bonds since November 1, 1939. Under the Standby Agreement, this interest is not payable until June 1, 1943, and therefore is not included in current liabilities at November 29, 1941.

Brown Corporation's working capital at November 29, 1941, was $5,272,276, an increase during the year of $2,354,531.

Dollar Sales $24,957,570

Dollar sales (exclusive of inter-company sales) of all Brown Company and Brown Corporation products in 1941 were $32,198,400, compared to $24,957,570 in 1940. Pulp manufacturing operations were at capacity throughout the year and other products showed substantial sales increases.

Referring to important developments during 1941, Mr. Carruth said, "Brown Company has taken its part in industry activities of various kinds in furthering the war effort and has assisted the various government agencies both in the United States and Canada. The Company has become in an increasing degree engaged in the sale of products of direct or indirect significance to this effort."

In regard to the future, Mr. Carruth stated, "Brown Company and Brown Corporation are in an exceptionally favorable position in the pulp and paper industry under present conditions due to their large timberland holdings on both sides of the International Line, together with a background of research which makes their specialized products available in this critical time, and varied equipment facilities in the plants which permit flexibility in products to meet the rapidly changing requirements of the recent past and near future.

A. W. P. Nets $141,587

The American Writing Paper Corporation in report for the quarter ended March 31, 1942, subject to audit and year-end adjustments, shows a net profit of $141,587 after depreciation, interest and estimated income and excess profits taxes, comparing with $27,358 in first quarter of 1941.

The report states that federal income and excess profits taxes for first quarter of 1942 have been estimated at rates approximately one-half the difference between the present law and recent recommendation of the Treasury Department. Enactment of a tax law along the line of the Treasury Department's recommendation would substantially reduce first quarter profit.

Crystal Tissue Changes

The Crystal Tissue Company, Middletown, Ohio, announces the appointment of John J. Cahill, vice president in charge of sales, and Walter E. (Jack) Piper as assistant sales manager. These appointments were necessitated by the recent death of V. Howard Larsen.

Mr. Cahill has been associated with Crystal for sixteen years, during the past three years as Assistant Sales Manager. Both he and Jack Piper are well known to the paper trade, as they have been closely connected with many phases of the tissue and waxed paper industries for many years.

Dixie-Vortex Earns $1.95

The Dixie-Vortex Company and subsidiaries for the twelve months to March 31, reports a net profit of $970,300, equal, after dividend requirements on Class A stock, to $2.58 each on 202,666 common shares, against $840,911, or $1.95 a common share, in preceding twelve months.

Badger Mills Earns $278,902

The Badger Paper Mills, Inc., for 1941 reports a net profit of $278,902, against 1940 net of $252,237; net sales, $3,387,113 against $2,815,546.

A. W. P. Profits Up

The American Writing Paper Corporation for the March quarter, reports a net profit, of $141,587, compared with $27,358 last year.

New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Raymond E. Aiman, maintenance engineer, Container Corporation of America, Wilmington, Del., and formerly with the Enterprise Corporation, Clayville, N. Y., and Paterson Parchment Paper Company, Modena, Pa.

Edward T. Bailey, technical control, Ryegate Paper Company, East Ryegate, Vt.

Dallam E. Blandy, vice president, American Wood Board Company, Schuylerville, N. Y., a 1924 graduate of Rensselaer Polytechnic Institute.

C. W. Coker, vice president, Sonoco Products Company, Hartsville, S. C., a 1928 graduate of the University of South Carolina.

Daniel H. Gutermann, chief chemist, BenMont Papers Inc., Mill street, Bennington, Vt., a 1933 graduate of Pratt Institute, and formerly with the New England Card and Paper Company, Springfield, Mass.

J. P. Ekberg, general superintendent, Chesapeake Corporation, West Point, Va., a 1907 graduate of Royal Polytechnic Institute and formerly with Aroostook Pulp Company, Van Buren, Me., and Deerfield Pulp Co., Wilmington, Vt.

Axel Ekwall, chemical engineer, Billerud Company, Ltd., Saffle, Sweden, a 1931 graduate of Royal Technical University of Stockholm, Sweden. Mr. Ekwall is in the United States at present as the Fellow of the American-Scandinavian Foundation, 116 East 64th street, New York, N. Y.

James J. Harrison, graduate student, Institute of Paper Chemistry.

James Keaton, technical research chemist, British Paints, Ltd., Britannic Works, Portland Road, Newcastle-on-Tyne, England, attended Marchester College of Technology, and formerly with Geigy Colour Company, Ltd., Manchester.

Frederick Kushner, laboratory tester, Hollingsworth and Whitney Company, Mobile, Ala., attended Medical School, University of Vienna.

George D. Lord, Pulp sales division, Brown Company, Berlin, N. H., a 1928 graduate of the University of New Hampshire.

Douglas F. MacPhail, administrative research engineer, Paper Bag Institute, 369 Lexington Ave., New York, N. Y., has been reinstated as an active member.

Raymond A. Nelson, engineer, Minnesota and Ontario Paper Company, International Falls, Minn., a 1935 graduate of the University of Minnesota.

Edward H. Paeplow, supervisor, Paper Testing Laboratory, Remington Rand Inc., 162 Sweeney street, N. Tonawanda, N. Y., attended University of Michigan.

Rodolphe Paradis, chemist, Pacific Mills, Limited, Ocean Falls, B. C., Canada, a 1936 graduate of the University of British Columbia.

Carl E. Price, research chemist, Scott Paper Company, Chester, Pa., a 1938 graduate of Juniata College and formerly with the Bureau of Standards, Harrisburg, Pa.

H. Rose, chief chemist, Celotex Limited, London, N. W., 10, England, received his B. S. in Chemistry from London University, Queen Mary College.

Percy R. Sandwell, resident engineer, Australian Newsprint Mills Pty. Ltd., Boyer, Tasmania, Australia, a 1935 graduate of the University of British Columbia, and formerly with the Dominion Engineering Works, Ltd., Montreal, P. Q.

Cecil E. Thompson, engineer, 2 N. Highland Place, Croton-on-Hudson, a 1922 graduate of McGill University.

Graham Tretheway, assistant chemist, British Columbia Pulp and Paper Company, Ltd., a 1937 graduate of the University of British Columbia.

Raymond Wells, technical director, Kieckhefer Container Co., Delair, N. J., formerly with Wm. F. Taubel Company, Riverside, N. J.

Roy P. Whitney, assistant professor of chemical engineering, Massachusetts Institute of Technology, Cambridge, Mass., has been transferred from the Associate to the Active grade.

C. C. Wilson, chemist, Crossett Paper Mills, Crossett, Ark., a 1941 graduate of Louisiana State University.

Frank W. Yeager, research chemist, The Barrett Division, Allied Chemical and Dye Corporation, 40 Rector street, New York, N. Y., a 1916 graduate of Pennsylvania State College.

Paper Merchants Meet at Syracuse

SYRACUSE, N. Y., May 4, 1942—"How Can the Paper Merchant Best Help in the War Emergency?" was the chief theme at the annual meeting of the Empire State Paper Association, held at the Hotel Syracuse last week. The chief speaker was Robert Zeigler, assistant secretary of the National Paper Trade Association, parent body of the Empire State organization.

Officers elected were: Harold Cowan of Franklin Cowan Company, Buffalo, president; Howard Maurinus, Alling & Cory Company, Rochester, first vice president; Harold Austin of the same firm, second vice president, and C. A. Morgan of Cramer Force Company, Inc., Rochester, secretary-treasurer.

The first three named were re-elected.

Directors elected were Sidney Jones, Hudson Valley Paper Company, Albany, and W. U. Van Alsteyn, Hudson Falls Paper Company, Hudson Falls. The executive officers are ex-officio members of the board.

New members elected were Great Lakes Paper Company, Rochester; Messinger Company, Rochester; F. S. Johnston Paper Company, Auburn, and Ogdensburg Paper and Glass Company, Ogdensburg.

OPA Moves New York Office

The New York Regional Office of the Office of Price Administration, of which Glenn Mather is Chief of the Paper and Paper Products Section, is moving this week to the 45th floor of the Empire State Building, Fifth avenue and 34th street. The office has been located for some months in the Chanin Building, 122 East 42nd street.

Folding Box Orders Show Increase

CHICAGO, Ill., May 5, 1942—Orders booked by members of the Folding Paper Box Association of America during April showed an increase of 10.3 per cent over March, but declined 1.5 per cent from April, 1941, preliminary reports to the association indicated today.

Empire State TAPPI Meets

The Empire State Section of the Technical Association of the Pulp and Paper Industry held its regular meeting at the Hotel Niagara, Niagara Falls, New York, on April 25, 1942, with F. J. Lang of the North Tonawanda Plant of the International Paper Company presiding.

The first phase of the meeting was the presentation by O. D. Horton of a paper entitled "Mathieson Pipe Line Chlorination Process" by G. A. Petroe of the Mathieson Alkali Works. A discussion followed the presentation of the paper.

A round table discussion was held on the following subjects:

1. Pitch and Pitch Control.
2. Brightness and Control of Brightness Through Bleaching.
3. The Conservation of Critical Materials.

The discussion on the Conservation of Critical Materials is particularly timely because the engineers responsible for the maintenance and replacement of equipment are faced with difficult problems as the result of shortages in copper, tin, nickel, chromium, and certain other ferric and nonferric metals. The discussion brought out means of conserving present equipment, and substitutions of material available for those which have been prohibited by the War Production Board. Preventive maintenance is of particular significance in extending the life of Fourdrinier wires, screen plates, refiners and beater tackle, bearings—both of the babbitt and antifriction type, prime movers, power plant and generators, and other electrical equipment. The importance of rubber and rubber products to the Pulp, Paper, and Paperboard Industry was not overlooked in the discussion.

(EDITOR'S NOTE: A comprehensive program for the Conservation of Critical Materials has been developed by the Technical Association of the Pulp and Paper Industry which will be announced soon. The ways and means to extend the life of equipment in pulp, paper, and paperboard mills will be widely distributed.)

One of the highlights of the program was the showing of a set of colored picture slides taken in South Dakota and Wyoming by George A. Thompson, Jr., of B. F. Perkins & Son, Inc., Holyoke, Mass.

Among those present were: B. D. Millidge, H. E. Karberry, P. Dolan, G. I. Hoover, S. G. Stapley, G. A. Thompson, Jr., M. H. Bennett, H. D. Cook, A. B. Leachy, A. G. Frankenhoff, S. C. Nagel, J. D. Rue, J. E. Brennan, O. D. Horton, G. K. Storin, F. Casciani, R. W. Martirck, A. Parker, W. F. Schroeder, H. F. Freas, R. G. Vaeth, C. E. Youngchild, F. J. Lang, E. J. McDonnell, A. C. Hayes, H. G. Davis, J. H. Chizmar, H. P. Bailey, H. S. Bristol, and J. L. Nolan.

James M. Murray Dead

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 4, 1942—The death is announced, at his home in Westmount, Que., of James M. Murray, manager of the department of Personal Relations and of core and wrapper sales for the Canadian International Paper Company. He was in his 66th year. He is survived by his wife, the former Elizabeth Cunningham.

WITCO BLANCAL is the perfect answer to the Blanc Fixe shortage. In some respects it is a more efficient and economical product to use than Blanc Fixe. For example, because it is an extremely finely divided extender, having excellent color in dry state as well as under oil, it gives even better results in many applications. Again, because it has higher bulking value, much less is needed in formulations, and it proves to be more economical. WITCO BLANCAL is one of the most recent products of research in the Wishnick-Tumpeer Laboratories. Our staff will be glad to give you more complete information on this new development and assist you in using it to obtain the most satisfactory results. Fill out and mail the coupon today.

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Superintendents Plan for Convention

Plans are developing rapidly for the Maintenance and Conservation Forum to be held during the Twenty-third Annual Convention of the American Pulp and Paper Mill Superintendents Association, June 16, 17 and 18, Hotel Pantlind, Grand Rapids, Mich., according to Oscar Stamets, president of the Association.

"The Board of Trustees of the Superintendents Association at a meeting held on February 18 in New York City approved of the theme for the program at the annual meeting of the Superintendents Association which was suggested by the Industrial Affiliates Committee of the Superintendents Association because of the importance of a practical approach to this vital question of maintenance and conservation at this time," Mr. Stamets stated.

Industrial Affiliates Cooperates

"The Industrial Affiliates Committee is cooperating with the Superintendents Association in the preparation of the Maintenance and Conservation Program at Grand Rapids. Questionnaires have been sent to more than a thousand companies selling machinery, equipment and supplies to the pulp and paper mills asking for practical suggestions concerning maintenance and conservation which can be used by the Superintendents and other operating men in the pulp and paper mills to keep the mills running at this time when essential processing supplies are difficult to obtain and when the regulations of the War Production Board prohibit the installation of new machinery and equipment. Fortunately the allied industries are cooperating 100% because they not only recognize the importance of helping their friends and customers in this industry keep the mills running during this period of crisis but they also have a fund of practical information based on the wide experience in the application of their own machinery and supplies which is invaluable. All this information is being gathered by the Industrial Affiliates Committee and will be made available to the entire industry at the Grand Rapids Convention.

Conservation of Critical

"At the same time George Craigie, field secretary of the Superintendents Association, who is directly responsible for the Grand Rapids Convention is sending out questionnaires to the superintendents who are members of the association, asking them to give their comments, questions and suggestions concerning the conservation of critical materials. In this connection we are fortunate to have the cooperation of the American Paper and Pulp Association which has made available to us copies of the Program for the Conservation of Critical Materials suggested by the committee representing the pulp, paper and paperboard industry. Copies of this Conservation Program have been sent to all the members of the Superintendents Association and Mr. Craigie reports that some extremely interesting replies are coming in.

"All the material which is being compiled by the Industrial Affiliates Committee and by our own association will be coordinated and put in the hands of the Program Committee for presentation at the Grand Rapids Convention. The Board of Trustees of the Superintendents Association is convinced that this question of Maintenance and Conservation is the biggest problem facing the entire pulp and paper industry. It was for that reason that we decided to devote at least one full day and if necessary two days, to the Maintenance and Conservation Program at Grand Rapids.

The plan is to present the Maintenance and Conservation Program in an open forum on the first day of the Convention to the entire assembly of mill executives, mill managers, superintendents, technical men, operating men, and conservation coordinators. We hope to present practical suggestions which will keep the mills rolling. Needless to say we are asking the cooperation of the management of the pulp and paper mills throughout the country, the technical men as well as the superintendents in allied industries to make this program a constructive and helpful contribution to our common war effort."

Maximum Paper Prices

(Continued from page 7)

The manufacturer's maximum delivered price for resale book matches is $3.60 per case of 2,500 books.

Producers' Prices on Crepe Paper

The following table, presented in the regulation, shows the maximum manufacturers' delivered prices for single weight crepe paper in folds:

Dimensions	Ratio	Form	Maximum Mfrs. Del. Price Per Gross	
a. 9′ x 20″	2½ to 1	Packaged	$7.80	
b. 9′ x 20″	2¼ to 1	Bulk	5.25	(100 gross or more)
c. 9′ x 20″	2¼ to 1	Packaged	6.84	
d. 9′ x 20″	2 to 1	Packaged	6.12	
e. 7½′ x 20″	1½ to 1	Packaged	3.96	

Maximum Prices on Kraft Paper

The maximum manufacturers' delivered prices for kraft bag paper and kraft wrapping paper are presented in the following table:

Grades	Maximum Manufacturers delivered prices For Carload lots	
Standard Kraft Wrapping Paper.....	$4.75	cwt.
Imitation Kraft Wrapping Paper.....	4.75	cwt.
No. 1 Kraft Wrapping Paper.....	5.00	cwt.
Standard Kraft Bag Paper.....	4.375	cwt.

The various grades are defined and the method of determining prices for each grade are set forth in the regulation.

Each manufacturer is now required to preserve for OPA all records relating to the prices he charged for commodities he sold or delivered during the applicable base period and to prepare before July 1, 1942, a statement showing the highest prices he charged for the commodities delivered during this period with an appropriate description of the commodity. A statement also must be made showing discounts, allowances and price differentials he observed during the same period. Records of transaction after April 1 must be kept.

The maximum price at which a manufacturer may sell for export is the price determined by the provisions of the Maximum export Regulation which becomes effective April 30.

Obituary

John S. Barnes

John Sanford Barnes, retired paper broker, formerly with Dillon & Barnes, of 52 Vanderbilt avenue, New York, died Thursday at Doctor's Hospital. He was seventy two years old and lived at 27 East Sixty-second street.

Born in Elizabeth, N. J., he attended St. Mark's School, Southboro, Mass., and was graduated from Yale University in 1891. He later became associated with the Great Northern Paper Company, and was treasurer in 1910. He then became an independent paper broker with Dillon & Barnes. He retired in 1920.

From 1920 to 1930 he was president of the board of trustees of the old Randall's Island Reformatory for Delinquent Boys, and was a former treasurer of the House of the Holy Comforter. Surviving are two sisters, Mrs. Shelton E. Martin, of Peapack, N. J., and Mrs. Francis Rogers, New York.

Dr. Fritz Straus

Prof. Dr. Fritz Straus, 65, an official of the Ecusta Paper company of Brevard and an internationally known professor of chemistry, died last month at Hollywood, Fla., where he was vacationing.

Dr. Straus, a brother of Harry Straus, president of the Ecusta company, formerly was professor of chemistry and dean of the University of Berlin and Breslau. He had been connected with the Brevard plant for the past three years.

Although he had never held an industrial position prior to his connection with Ecusta, Dr. Straus was outstanding in the help and advice that he gave the corporation, associates said.

He had a sunny disposition, friends said, and his enthusiasm for his work was one of his many valuable traits. His wife, Renee, was with him when he died.

Dr. Straus was a member of the Technical Association of the Pulp and Paper Industry. In addition to Harry Straus, Dr. Straus is survived by his widow; another brother, Ludwig Straus of Brevard; a sister, Mrs. Greta Baldauf of New York, and a step-son, Paul Heygel of Brevard.

News of Boston Paper Men and Firms

BOSTON, Mass., May 4, 1942—The Pratt Paper Company, formerly at 136 Federal street, has removed to 176 Federal street.

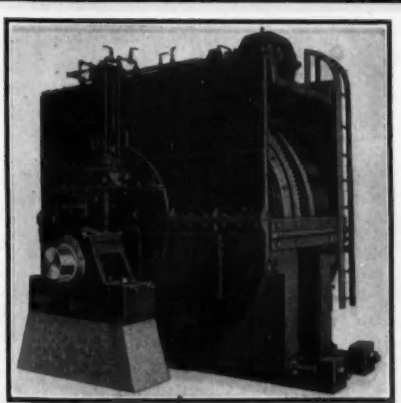
A. M. Bond, of the Consolidated Paper Box Company, Somerville, Mass., has been appointed to the War Production Board box industry advisory committee.

The Monadnock Paper Mills have removed from their former location in the Park Square Building to Number 1054 in the same building.

Hubert L. Carter, of Carter, Rice & Co., Corp., was elected a member of the council of the Boston branch of the Foreign Policy Association, at a meeting of that organization, held at the Hotel Copley-Plaza April 29.

REPLACES 3 or 4 POCKET GRINDERS

ROBERTS Continuous GRINDER



The daily capacity of the new Roberts Grinder is up to 50 tons of groundwood pulp. It does the work of three or four pocket grinders yet takes little more space than a single 3 pocket grinder, requires no greater headroom, no auxiliary equipment. Only slight mill change is necessary for installation. And this large tonnage is produced at less cost per ton. There are important savings in power, savings in labor up to 70%, less waste, improved quality. Many construction advancements and operating advantages are concentrated in the Roberts Grinder. The wood is fed to the stone continuously. There is no down-time. Highspeed grinding is now a demonstrated success. It is a faster and more profitable way to grind pulp for paper. Write for complete information. Let us give you all of the details and comparative performance figures.

Canadian Sales—F. W. ROBERTS MANUFACTURING COMPANY OF CANADA, Limited, Niagara Falls, Ont.

THE APPLETON MACHINE COMPANY
APPLETON · WISCONSIN

OPA Fixes Newsprint Price at $50 Per Ton

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1942—"Standard" newsprint paper prices, will remain at $50 per ton as the result of Maximum Price Regulation No. 130 which was announced by Price Administrator Leon Henderson with the General Maximum Price Regulation freezing prices of nearly all cost-of-living items at all levels of distribution.

The new newsprint regulation, effective May 11, 1942, replaces Temporary Maximum Price Regulation No. 16, which on April 1 established maximum prices for standard newsprint at the same levels.

Mr. Henderson explained that the new regulation does not preclude further discussions between OPA and the Canadian Wartime Prices and Trade Board concerning Canadian newsprint mills. These mills last December sought an increase of $3 per ton in the price of newsprint for export to the United States to become effective April 1, 1942. The issuance of the permanent regulaton does not change the plan of OPA to weigh results of the operations of the industry during the first half of 1942 to determine whether or not a higher price in the second half of the year is justified.

Consumption of newsprint in the United States in 1941 approximated 4,000,000 tons of which about 75% was imported from Canada and the remainder was produced by mlls in this country.

Newsprint Price Remains at $50 Ton

Today's regulations effect few changes from the provisions of the temporary order. Maximum prices are fixed to cover the sales of standard newsprint paper by converters—who process newsprint paper from rolls to sheets—and sales by merchant and distributors who purchase standard newsprint paper from converters, as well as from manufacturers.

The regulation also precisely defines standard newsprint paper, with specifications as to weight, rolls, sheets, stock, finish, ash content, degree of sizing, color and thickness, and establishes one level of prices for all sellers.

Sales taxes, and the possible use of sales taxes, are treated to conform with provisions of the General Maximum Price Regulation, and adjustable pricing—not to exceed the levels established by the regulation—is permitted in conformity with the general order. The record keeping provisions of the temporary regulation are expanded by the new order.

Export Sales Under New Regulation

Sales by exporters are placed under the Maximum Export Price Regulation controlling prices on all exports and effective April 30. Exporters' contracts entered into prior to April 1, 1942 may be completed even if the prices are above the maximum if the exporter has received delivery of the newsprint he has contracted to resell from a supplier and keeps records of such transactions in accordance with provisions of the regulaton.

The price of $50 per ton is the "port" price of white standard newsprint for carload lots in rolls. A price of $51 per ton is set for Zone 4, and is used in the regulation as a base price to determine the actual prices in the 10 zones into which the United States is divided. These zones were recommended several years ago by the Newspaper Code Authority of NRA and have been used for pricing purposes by the industry ever since.

Price differentials for other zones, and for color, sheets, or special packing are frozen in the regulation at the levels prevailing during the period October 1 to October 15, 1941.

Maximum mark-ups over the manufacturer's prices which a merchant or distributor is permitted in the sale of standard newsprint in sheets, rolls, or from warehouse stocks, are established in the regulation and are the same as those listed in the temporary regulation.

Maximum prices for sale of standard newsprint by converters are established generally at levels which prevailed October 1-15, 1941. The highest price charged by the converter during that period for a similar quantity of similarly converted standard newsprnt paper sold to a purchaser of the same general class will be the maximum price allowed under the order.

Government Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

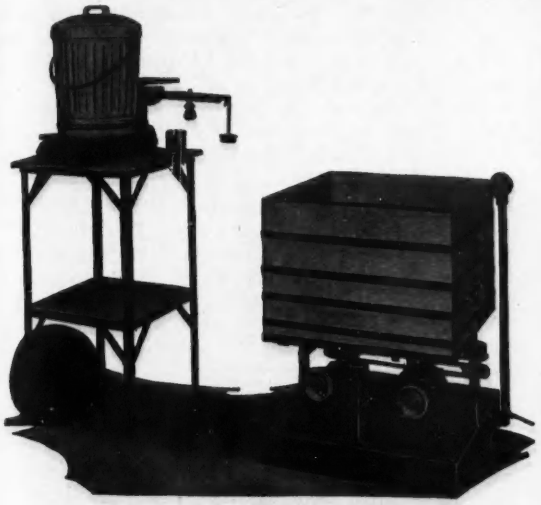
WASHINGTON, D. C., May 6, 1942—The Government Printing Office has received the following bids for 150,000 pounds of 25% rag, white bond paper in 34 inch rolls. First price is for 50,000 pounds and second for 100,000 pounds: Aetna Paper Company, 12.89 and 12.57 cents; Butler Company, 13.09 and 13.09 cents; Stanford Paper Company, 13.25 and 13 cents; Walker Goulard Plehn Company, 12.54 and 12.18 cents; Bradner Smith & Co., 12.94 and 12.94 cents; Virginia Paper Company, 13 cents; Paper Corp. of U. S., 12.65 and 12.84 cents; R. P. Andrews Paper Company, 13.35 cents; Mudge Paper Company, 13 and 12.75 cents; Whitaker Paper Company, 12.78 and 12.78 cents; Old Domnion Paper Company, 13.648 and 13.648 cents; MacIntosh Paper Company, 12.78 and 12.78 cents; and Garrett Buchanan Company, 13.5 and 13.5 cents.

For 190,646 pounds of 35½ x 55 jute tag: Stanford Paper Company, 6.25 cents; Birmingham & Prosser Company, 8.75 cents; Paper Corp. of U. S., 10.875 cents; Old Dominion Paper Company, 10.974 cents; Mudge Paper Company, 10.75 cents; and Walker Goulard Plehn Company, 10.84 cents.

For 61,953 pounds of 36 x 48 yellow sulphite paper: Stanford Paper Company, 7.27 cents; Whitaker Paper Company, 6.92 cents; Marquette Paper Company, 7.5 and 7.75 cents; R. P. Andrews Paper Company, 6.89 cents; Paper Corp. of U. S., 8.625 cents; Mudge Paper Company, 7.57 cents; Cauthorne Paper Company, Inc., 7.45 cents; Birmingham & Prosser Company, 7.22 cents; Eastern Corp., 8 cents; D. L. Ward Company, 7.18 cents; Blundon-Lyon Company, 8.05 cents less 3%; Swigert Paper Company, 7.18 cents f.o.b. mill; Central Ohio Paper Company, 7.63 cents; Baxter Paper Company, 7.18 cents; Coy-Hunt & Co., 7.4 cents; and Bradner-Smith & Co., 7.5 cents.

THE WILLIAMS CHIP CLASSIFIER

Will Pay for Itself Many Times Over



SAVES

Waste of wood, by reducing % over-sized uncookable chips and sawdust.

REDUCES

Cooking chemicals when chips are more uniform in length.

INCREASES

Digester output.

IMPROVES

Quality of product, both in Mullin and Tensile Strength Tests.

WILLIAMS APPARATUS CO., INC.

WATERTOWN, NEW YORK

B. C. Guards Against Sabotage

British Columbia is in a preferred position when it comes to dealing with sabotage and bombardments which may jeopardize the security of its forest resources. Through bitter experience in 1938 British Columbia learned just what a gigantic forest fire means. In the summer of 1938 wind whipped the province's grimmest fire on a 40-mile rampage through the slash and timber of Vancouver Island. In the light of present possibilities, it may be regarded as a dress rehearsal from which the protection branch of B. C. Forest Service emerged richer by a lesson which Allied military chiefs weren't to learn until France crumbled three summers later.

The unwelcome rehearsal was for a wilderness Armageddon of smoke and flame which incendiary raids may bring to the Douglas Fir belt. The lesson was that panzer tactics are essential in any major fire. They licked the Island blaze with mechanical equipment, with the huge Diesel bulldozers which are cousins to the army's tanks. The bulldozers snared it in a net of fire trails, gouging out a defense in depth which would have occupied the mattock and shovel infantry of fire-fighting for months. That isn't a reporter's say-so. It came from the late Chief Forester, E. C. Manning, and he said it while the smoke-grime was still on his face.

There were other benefits too. Into that fight—so like a war, with its alarms and swift changes, its threatened towns and its sad-faced refugees—the loggers tossed their entire crews and all the gear of their own potent protection services. The result was a welding of forces which brought maximum efficiency. And the fire jolted the service, which is short of men but long in brains, into an activity which has yielded at least two extremely important additions to its mobile equipment.

The first was the stand-by unit fitted with equipment ranging from rations to two-way radio. The second was the feather-weight gasoline pump developed by Jim MacDonald, Vancouver forest district fire inspector. Both additions bring the service closer to success in its secondary objective, which is to catch fires young and hit them hard. Primary objective, of course, is to keep fires from starting at all.

Any fire which closes a logging camp this summer will be as much a blow to war production as flame in an aircraft plant.

The service has men and equipment to meet the fire-threat of a normal year, and when something big starts, it doesn't hesitate to toss its estimates overboard. Its chiefs have been frank in stressing the added dangers both to Ottawa and the provincial authority. The hard fact, stated by Chief Forester C. D. Orchard before the forestry committee of the Legislature, is that the present appropriation entire won't cover the cost of protection against the hazards of war.

The extra protection needed calls for an extended lookout system, and an army of ground patrols. The RCAF can give the service eyes in the skies. And there are plenty of men past military age to watch from high-slung stations or prowl the tindery slashing. It was suggested first that boys in their late 'teens be recruited for this duty, but the idea seems to have met a cool reception.

CONSTRUCTION NEWS

Philadelphia, Pa.—The Crescent Box Corporation, 621-23 East Erie avenue, manufacturer of corrugated boxes and containers, folding paper cartons, etc., has arranged for lease of the industrial building on local site at 3509-11 Thirteenth street, and will take possession at once. Company will occupy structure for general expansion.

Long Island City, New York, N. Y.—The Atlantic Container Corporation, 30th place and Hunter's Point avenue, manufacturer of corrugated paper boxes and containers, has concluded arrangements for lease of one-story industrial building on local site at 46-45 Crane street, owned by United States Sanitary Manufacturing Company, and will take over property at early date. It will be used primarily for storage and distributing service, allowing for release of certain space at plant at first noted address for other production purposes.

Pensacola, Fla. — The Santa Rosa Pulp and Paper Company, Inc., recently organized by officials of the Florida Pulp and Paper Company, Inc., U. S. Highway 29, Pensacola, manufacturer of kraft paper products, has initial work in progress for erection of proposed new mill at Cantonment, near Pensacola, in vicinity of plant of last noted company. Foundations and other site work are under way, to be followed by construction of superstructures at early date. New mill will comprise several one and multi-story units and will operate under a special process for the production of wood pulp for paper-making without the use of liquid chlorine. It will be equipped for a rated capacity of about 100 tons per day, and is reported to cost close to $800,000, with machinery. Project is being financed by Defense Plant Corporation, Washington, D. C., a Federal agency, which will use the output. J. H. Allen is president and general manager of new company, occupying like offices with the Florida Pulp and Paper Company. Hardy S. Ferguson & Company, 200 Fifth avenue, New York, N. Y., are consulting engineers for project.

Birmingham, Ala. — Fire recently destroyed a portion of storage and distributing building of Winter Waste Paper and Rag Company, 1016 Fifth avenue South, with loss reported close to $20,000, including equipment. It is planned to rebuild. E. J. Brand is general manager.

Jamaica, L. I., N. Y.—The Transcontinental Container Corporation, recently organized with capital of 100 shares of stock, no par value, is said to be planning operation of a converting plant in this vicinity for the manufacture of stiff paper containers in the form of kegs, pails, boxes, etc.

Lynchburg, Va.—The Mead Corporation, Heald Division, manufacturer of paper board products, has work under way on new two-story addition, about 45 x 123 feet, previously noted in these columns. It will be equipped for a machine shop, laboratory, storage and other general service, as well as offices, and is reported to cost approximately $50,000. C. L. Lewis, Allied Arts Building, Lynchburg, has the general erection contract.

Cornwall, Ont. — The Howard Smith Paper Mills, Ltd., 407 McGill street, Montreal, Que., manufacturer of bond and other writing papers, book stocks, etc., has approved plans for new one-story addition to mill at Smithsville, estimated to cost close to $50,000, with equipment, and will proceed with superstructure at early date. General erection contract has been awarded to the A. F. Byers Construction Company, Ltd., 1226 University avenue, Montreal.

Providence, R. I.—The American Waste Paper Company, 24 Ash street, has filed notice of company organization to deal in waste paper products. Company is headed by Stanley and Harry Luchka, 37 Potters avenue, Providence.

Hamilton, Ont.—Perga Containers, Ltd., 1581 Main street West, manufacturer of paper boxes and containers, has plans under way for new addition to plant, to be one-story, about 35 x 150 feet, estimated to cost about $55,000, with equipment. It is expected to ask bids soon on general erection contract. Prack & Prack, 36 James street South, Hamilton, are architects. R. H. Innes is general manager.

New Companies

New York, N. Y.—The Whitehill Company, Inc., has been incorporated with capital of $20,000, to deal in cellophane, glassine papers, and other paper stocks. New company is represented by Oscar Bellick, 291 Broadway, New York, attorney.

Los Angeles, Cal. — The Wilson Paper Company, 1434 South Los Angeles street, has filed notice of organization to deal in paper stocks of various kinds. Company is headed by Charles and A. J. Wilson.

Lockland, Ohio—The Security Bag Company, Inc., has been chartered with capital of 250 shares of stock, no par value, to manufacture paper bags and sacks. New company will take over and succeed to the concern of same name, with local plant at Lock street and Cooper avenue. The incorporators include Harold W. Nichols and E. L. Wessels.

Jersey City, N. J.—Paper Mill Agents, Inc., has been incorporated with capital of 2500 shares of stock, no par value, to deal in paper mill supplies. New company is represented by Edward V. Ryan, 1 Exchange place, Jersey City, attorney.

Cy Norton Speaks at Cincinnati

The effects of war on selling were discussed at a luncheon of the Cincinnati Sales Executives Council recently at the Netherland Plaza, Cincinnati, Ohio, by Cy Norton, sales promotion manager of the Strathmore Paper Company, West Springfield, Mass. He pointed out that the war had changed the whole selling picture and that entirely different methods must now be used.

To Stagger Shipments of School Papers

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 6, 1942 —An appeal to public schools and other public institutions to stagger shipments to them of certain paper products so that deliveries can be spread out over the year was made by the War Production Board today in an effort to avoid disruption of commercial paper markets throughout the country.

The Pulp and Paper Branch placed special emphasis on supplies of tissues and paper towels, which most schools and institutions order in vast quantities during a brief period of time.

The Branch asked them not to demand delivery within the next few weeks of all such supplies that they will need until the summer of 1943. In so changing their purchasing methods they will contribute to the war effort, Branch officials said.

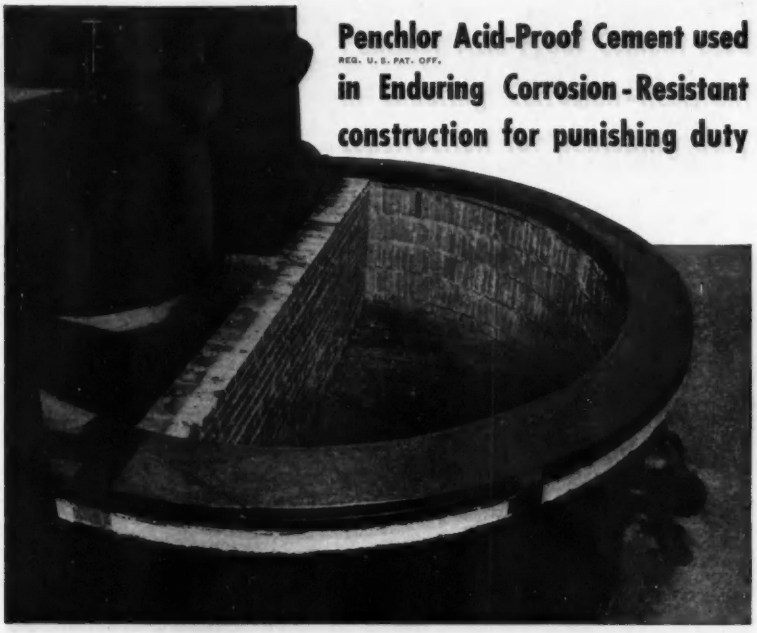
No shortage in tissues and paper towels is anticipated, but a flood of buying orders calling for deliveries a year in advance is threatening to disturb commercial markets seriously because of unusual conditions resulting from the war emergency.

It has been a general custom for public schools in the larger cities to place contracts in the spring for a year's supply of tissues and paper towels, usually specifying deliveries in semi-annual installments, and for schools in middle-size cities to specify delivery of the year's supply at one time.

In the smaller schools, which serve cities, towns and school districts with populations of 2,500 or less, the custom has been to call for delivery of the entire year's supply in one shipment. These schools are attended by approximately 80 per cent of the nation's school population, and about 90 per cent of their requirements are normally specified for delivery within a period of about one month.

In peacetime this practice did not cause difficulty, but with the unusual transportation and other problems of a war economy it has resulted in some cases in inconvenience to retail over-the-counter purchasers.

If Boards of Education would limit their inventories to a 90-day supply by specifying deliveries four times a year, they would, it is believed, eliminate the various difficulties which are being experienced at the present time.



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● This acid-proof, brick-lined tank, in a leading chemical plant, must stand up to the toughest kind of service. Scrap iron, in half ton loads, is dumped into such tanks twice a day, to be treated by hot acid in the manufacture of ferrous and ferric chloride. Some of these tanks have been in service over six years.

For this severe duty, Penchlor Acid-Proof Cement was used in making the mortar for the acid-proof brick lining. This strong, durable sodium silicate cement was chosen because of its proved record of long, unusual service under difficult operating conditions in many important industries throughout the country.

The quick-setting and self-hardening properties of Penchlor Acid-Proof Cement recommend it highly for new construction—particularly now, when time-saving is so important in war efforts. With Penchlor Acid-Proof Cement you can get brick-lined equipment into service without delay.

If you require a cement of exceptional strength and high resistance to abrasion, you will be interested in these Pennsalt *resin* cements: *Asplit*, for conditions always acid . . . *Causplit*, for alternate acid and alkaline conditions. These are easy to handle and will withstand a wide range of corrosive conditions, up to 350 degrees F.

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Booklet No. 5 on "Asplit and Causplit Cements"

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PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

Henry J. Berger
EDITOR

Vol. 114 May 7, 1942 No. 19

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION. Twenty-third Annual Convention, Pantlind Hotel, Grand Rapids, Mich., June 16-18.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Fall Meeting, Statler Hotel, Boston, Mass., September 30-October 1.

EXPEDITING WAR PRODUCTION

Conversion of all existing facilities of production, rather than expanding through the building of new plants and installing new machines, has been emphasized by Donald Nelson, chairman of the War Production Board, as of the greatest importance. At the thirtieth annual meeting of the Chamber of Commerce of the United States, held at Chicago, April 27-30, various phases of this subject were discussed. In an address by C. A. Woodruff, chief of the Conversion Section, Contracting Distribution Branch, War Production Board, the speaker declared that, "Meanwhile on every hand stand idle equipment. The purpose of conversion is to put this idle equipment to work and to do it now. The first question that comes to your mind is how to go about it. The first step is to file with the nearest office of the War Production Board, a complete list of your facilities, if it has not already been done. . . . No prime contracts are let or given out by the War Production Board. These are always let by the Army, Navy, Maritime or Treasury Departments. Sometimes we get letters from business men asking for Mr. Nelson to hurry up and give them a contract. Actually the contract must come from these procurement agencies or else by sub-contract."

In discussing the subject of "Labor-Management Production Committees", W. G. Marshall, vice-president, Westinghouse Electric and Manufacturing Company, Pittsburgh, Pa., said in part: "In reviewing the formation and operations of the War Production Drive Committees in the Westinghouse Company, it should be stated that there are enrolled in the company a total of 82,000 employees located at various points throughout the country, the largest plant involving 23,000 being at East Pittsburgh. Likewise the company operates on an open-shop basis, and is dealing with certified groups, including the C.I.O., A. F. of L., Independent Shop Groups, and Independent Salaried Groups. In several plants, two or more of these have been certified. Almost all work is war work. After careful review of the announced War Production Drive program with all managers, plans were based, generally, on the following three items as announced by the Board: (1) Greater utilization of plants now producing war goods, aimed at bringing us as close as possible to the theoretical maximum of 168 hours work per week for every machine in those plants. (2) Recognition and awards for outstanding industrial accomplishment both by management and labor. (3) Establishment of a plan for joint labor-management war plant committees which will consider suggestions from all quarters for increasing production and which help demonstrate the importance to our soldiers of production."

Continuing, Mr. Marshall said: "It was emphasized from the beginning that the drive contemplated the establishment of a plan for joint-production committees which were to consider suggestions from all quarters for increasing war production. The management proposed to the officers of all unions and to non-union groups that committees be set up for that purpose. . . . It was further proposed that the local managers would proceed at once to appoint their management representatives, and that union officers or non-union groups, likewise, appoint their employee representatives.

"Our interpretation of the Nelson Program is that all employers, where there are two or more labor certifications, should be represented . . . The program involves a campaign of information directed first to the employee himself while on the job; second, the home; third, the community in which he lives. I would like to quote from the Director of Organization of the U.E.R. & M.W. of A., as follows: "Collective bargaining machinery should function separate and apart from the production councils, even though the union personnel on both may in many or in all instances be the same. It is all too easy, otherwise, for management and union to get into lengthy arguments over grievances, wages, hours, working conditions and other items of collective bargaining, without ever getting down to business on the main and only objective of the councils, production. So, if this separation is not strictly maintained, the purpose of the councils will be defeated. Not only will the council be useless; the existing machinery for collective bargaining will be weakened."

In outlining the plan, Mr. Marshall stated that "the programs were specifically designed to; (1) Reduce to a minimum layoff time due to illness, accidents off duty, or mere indifference. (2) Reduce cost and

increase production through better and more careful workmanship. (3) Reduce possibility of sabotage. (4) Promote accident prevention in the plant and off duty. (5) Minimize transportation problems due to tire shortage. (6) Create an attitude which will cheerfully accept the need for overtime and holiday work. (7) The projected programs outside the plant involve the use of cooking schools, radio, newspaper advertising, and plant publications. Upon receipt of suggestions by this committee, all the facts in the case are ascertained, analyzed, and possibilities explored. It is anticipated that suggestions for greater production will come from both employees and management."

In reference to management, Mr. Marshall said that, "Management must retain the responsibility whether a suggestion can or cannot be carried out. In the war emergency, with a view to increasing production to the maximum, it is recognized, generally speaking, that there is an apprehension upon the part of the wage earner that if he produces beyond a certain limit, time values will be decreased. Management is willing to pay additional compensation for extra effort without regard to possible individual or group earnings and to accomplish the results desired the local managers were willing to adopt such policies and practices as would convince the workers of management's sincerity."

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1942		Corresponding Weeks, 1941	
March 21	103.3	March 22	91.7
March 28	103.0	March 29	94.5
April 4	101.3	April 5	93.5
April 11	99.4	April 12	95.0
April 18	100.5	April 19	94.0
April 25 (Prelim.)	99.9	April 26	97.8

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1941	85.6	89.7	92.2	96.0	98.7	99.3	94.2
1942	103.8	103.4	*102.7*	...	...	...	...

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1941	101.0	99.7	105.2	106.2	100.4	97.4
1942	...	...	...	...	...	...

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941	1942
Year to Date	68.0	77.1	89.6	67.4	80.0	85.1	88.9	*102.6*
Year Average	69.9	80.4	79.8	71.5	83.4	85.6	97.4	...

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS †

Revised

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1937	83	89	89	91	88	80	69	77	72	70	57	47	75
1938	56	63	63	60	60	59	59	69	70	73	67	61	64
1939	65	73	76	74	69	73	68	77	82	91	88	77	77
1940	78	75	74	76	82	85	77	79	78	85	82	77	78
1941	81	88	89	89	91	94	92	98	95	99	98	90	92
1942	102	101	*101*	..	..	..	..	..	..	..	..	..	..

Week ending Mar. 21, 1942—101
Week ending Mar. 28, 1942—101
Week ending Apr. 4, 1942—100
Week ending Apr. 11, 1942—93
Week ending Apr. 18, 1942—94
Week ending Apr. 25, 1942—*93*

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

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Can I expand my plant? Can I step up production by adding new equipment? Can I get the steel? Is my priority good enough?—Nobody is dead sure.

We don't know all the answers either. We do know, though, that we often would like to supply equipment when we can't. We'd like to give every customer what he needs and wants—as usual. But "business as usual" is out for the duration.

We know, too, that our continuous recausticizing installations are running way over capacity—and we're just a little proud of it. We know that because they're overloaded they can be cranky. And we know that if any one can set them right, we can.

Fortunately there are no priorities for "know how"—no restrictions on giving advice. No law forbids the extending of a helping hand to old clients trying to do the most they can, with what little they've got. That's where we can make our knowledge and experience in recausticizing pay off in your favor.

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Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Synthetic Rubber for Industrial Applications*

By H. H. Harkins[1]

Abstract

The physical and chemical properties of and some uses for synthetic rubber are discussed.

During the past two or three years there has been much public discussion of synthetic rubber. Many applications have been found, but the volume of synthetic rubber used thus far compared with the volume of natural rubber consumed is slight. The total production of all synthetic rubber in 1941 was only about 1½% of the crude natural rubber consumption. While this may not seem an impressive figure for synthetic rubber, the production has laid the basis for possible further expansion which is of great significance in time of emergency. Much further expansion of the synthetic rubber industry is contemplated. Jesse Jones recently announced that the Reconstruction Finance Corporation will appropriate $400,000,000 for the construction of additional synthetic rubber plants to bring the annual production of synthetic rubber up to 400,000 tons per year.

War's Effect on Natural Rubber Supply

One of the principal reasons why the use of synthetic rubber has lagged so far behind natural rubber is due to its being produced in the Far East with cheap labor at a price so low that synthetic rubber cannot compete. Hence, the only uses for synthetic rubber thus far have been for purposes for which it is superior in performance to the natural product. With the sources of natural rubber imperiled, or cut off entirely, synthetic rubber becomes a subject of vital interest to all of us.

Rubber manufacturers are keenly aware of their responsibilities to industries using this material. Under instructions from the government and on their own initiative rubber manufacturers are endeavoring to (1) conserve natural rubber wherever possible, (2) see that rubber is allocated to the essential needs of industry, (3) use substitute materials where warranted—for example, reclaimed rubber—(4) study intensively the processing and the properties of synthetic rubbers with the idea of using them wherever possible when they are available in sufficient quantity.

On the assumption then that in the immediate future we will have little natural rubber, but a moderately good supply of synthetic rubber, to what extent can our basic needs be satisfied? This question is too big for any one to answer definitely at the present time. However, we may consider the fundamental properties of the synthetic rubbers and thereby gain some insight into the possibilities of using them for various applications in industry.

Synthetic Rubber

Before discussing "synthetic rubber," it is advisable to define this term. Many attempts have been made to build up high molecular weight hydrocarbons to yield a product like natural rubber. None of these efforts has been successful. Therefore, synthetic rubber does not mean a product identical with natural rubber. It has been possible to build up or polymerize various substances or mixtures of substances which can be made to yield materials of high strength and elasticity resembling natural rubber in physical properties. There are many synthetic products which exhibit these properties in some degree. It is in this rather loose sense then that the term *synthetic rubber* will be used.

The more important synthetic rubbers, their chemical and mechanical properties, will be discussed and some of their possible uses will be mentioned.

For detailed information on any particular synthetic rubber the manufacturer should be consulted. The statements which will be made are based to a large extent on information received from the manufacturers coupled with the author's own observations.[2] In comparing these synthetic rubbers, every effort has been made to be fair. This comparison is made difficult by the fact that the properties of any one are largely dependent upon the processing, compounding, and curing it has received.

It must be made clear at the outset that no one synthetic rubber is satisfactory for all purposes for which a rubber-like material is required. But by taking advantage of all the various synthetics it may be possible, by making use of the best property of each, to satisfy most needs.

According to one authority twenty-nine varieties of synthetic rubbers were studied in 1941, and

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* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.

[1] United States Rubber Co., Providence, R. I.

[2] They do not necessarily represent the views of the company with which he is connected or of the manufacturer of the synthetic rubber.

one manufacturer has made over 200 synthetic rubbers. It would be impossible to discuss all of these, even if complete information were available. Consideration will be confined to the few types that are commercially available. There are numerous products under each heading, and therefore no generalizations are valid. The rubber technologists have been busy formulating compounds which would accomplish certain things which were not supposed to be possible for rubber. Exactly the same possibilities exist for compounding each of the synthetic rubbers. Consequently, any iron-clad rule concerning synthetics today may prove to be erroneous tomorrow in view of the development activity which is sure to take place in the field because of present conditions.

Neoprene

The first commercially successful, and best known synthetic rubber is neoprene which is made by the du Pont company (polymers of chloroprene—several important commercial varieties are being produced). Neoprene can be processed on rubber machinery with nearly as much ease as natural rubber. When properly compounded and heated, it polymerizes or "vulcanizes" to a product resembling natural soft rubber. It is better than rubber with respect to:

(a) Oils
(b) Deterioration by heat, oxygen, and sunlight
(c) Flexing life
(d) Gas diffusion

Usually it is less resistant to water than is rubber, but it can be formulated to yield products that are better than rubber is in resistance to hot water. These properties of neoprene make it useful (sometimes preferable to rubber) for certain products; such as,

(a) Hose, gaskets, packings
(b) Transmission and conveyor belts
(c) Boots where oil is a factor
(d) Soles and heels where an oil condition exists
(e) Tank linings where oil or high temperatures are encountered, or both
(f) Soft roll cover, especially printers' rolls

Quite recently neoprene has been made available in semiliquid condition so that it may be used as a high solid paint or as a troweling compound. This type of plasticized neoprene may be of value for various corrosive conditions in the pulp and paper and other process industries.

One important characteristic of neoprene is that a good product can be made which is light in color or even white. This is not true of some of the other synthetic rubbers.

Butadiene

Butadiene, a hydrocarbon obtainable from petroleum or other sources, will polymerize to yield a rubber-like material. However, much better rubbers are obtained by interpolymerizing butadiene with other compounds containing an active vinyl group, such as styrene, acrylonitrile, vinylidene chloride, or other vinyl compounds (E. R. Bridgwater, *Chem. Met.* p. 139, Oct. 1941).

Perbunan

Perbunan or Buna N is a copolymer of butadiene and acrylonitrile. Next to neoprene it is the best known synthetic rubber. Perbunan will vulcanize with sulphur just as natural rubber will, and can be made to yield compounds of all degrees of hardness ranging from soft inking-roll stocks of 5-10 durometer up to a very hard ebonite. This synthetic rubber is characterized by the fact that carbon black must be incorporated if high tensile strength is demanded. Any so-called Perbunan stock which is light colored is likely to have low tensile strength and the other properties will be poor also.

Perbunan vulcanizates are very resistant to aliphatic oils, quite resistant to heat, and have low permanent set or good cold flow resistance. These properties, coupled with the fact that a wide range of hardnesses can be made, indicate that Perbunan could be used as a press roll covering material for paper machines. A good roll cover must be well bonded to the metal core, must be resilient and resistant to cold flow, and have the proper hardness. Methods have been devised for adhering this rubber to metal. Numerous rolls have been made of the material, but it has not been used as a press roll cover for the reason that rubber is satisfactory, and because Perbunan is more expensive, more difficult to process, and adhesion of plies presents a problem.

Decker couch rolls covered with Perbunan have worked satisfactorily. Possibly the same technique would be applicable to large press rolls. It must be appreciated, however, that if attempts are made to use Perbunan or any other synthetic rubber in large rolls there will be numerous delays in delivery. No doubt many mistakes will be made before a synthetic rubber used as a press roll cover can approach the present high standard of performance of rubber-covered press rolls.

It will take much time and effort to adopt the synthetic rubbers to all of the services of the process industries, meanwhile it is hoped that engineers will be sympathetic with rubber manufacturers. Real cooperation will be needed between the producer and user in order to solve the problems.

Perbunan has been used as a tank lining material as it is resistant to acids, alkalies, and water. Its electrical properties are not outstanding, but are good enough for many purposes. This rubber may be used for printers' rolls, motor mountings, conveyor belts, gasoline hose, packing, gaskets, and other products. The Germans say Buna reinforced with wire makes gaskets which seal better than asbestos and work well up to 350 deg. F. No doubt further uses can be made of it as more experience is gained. From the rubber manufacturer's standpoint, the chief drawback to this material is the difficulty in processing it, because it does not "break down" on a rubber mill in the same manner as rubber. Nevertheless, methods have been devised for handling it. It has excellent molding qualities.

Perbunan Extra is similar to Perbunan except that it is more oil resistant. It is a copolymer of butadiene and acrylonitrile in which a larger amount of the latter is used.

Hycar O. R.

Hycar O. R. is derived from butadiene and an undisclosed ingredient. This synthetic rubber is similar to Perbunan, except that it is more resistant to oil. Like Perbunan it will yield vulcanizates with a wide range of hardness (Garey, Juve, Sauser, *Ind. Eng. Chem.*, p. 602, 1941).

Specially compounded Hycar O. R. yields soft vulcanizates with excellent resistance to heat, both wet and dry. Hycar is less resilient than rubber but is sufficiently "rubbery" for many purposes. In spite of its low resiliency (in general), the stocks properly formulated show excellent resistance to cold flow. It tends to stiffen at low temperatures but can be formulated to give compounds which have good flexibility under this condition. Hycar O. R. is reported to give better wear value as a tire tread than natural rubber. It is outstanding in resistance to aliphatic oils. It has excellent molding qualities, can be calendered quite easily, and can be bonded to metal. This

material has good resistance to acids, alkalies, and salt solutions (except strong oxidizing agents). Hence it can be used for all the applications previously given for Perbunan.

BUNA S

Buna S is a copolymer of butadiene and styrene and resembles natural rubber to some extent. It is not oil resistant, but does have good resistence to abrasion and chemicals and good electrical properties. This synthetic rubber has been little used for mechanical rubber goods, since it is not oil resistant, the principal attraction of synthetic rubbers heretofore. With a shortage of natural rubber, Buna S may become an important synthetic rubber. It is capable of yielding vulcanizates of all degrees of hardness. These vulcanizates resemble compounds of similar hardness made from rubber with respect to chemical resistance and electrical properties. The electrical properties are superior to compounds of similar hardness made from Perbunan, Perbunan Extra, Hycar O. R., and the neoprenes.

Hard Buna S or Buna S-S could perhaps replace the usual products made of hard rubber such as combs, trays, bowling balls, syringe fittings, battery containers, etc.

Buna S can be bonded to metal satisfactorily and may prove useful as a tank or pipe lining material to replace rubber for all chemical solutions where rubber is now used, namely:

(a) All inorganic acids except strong oxidizing acids such as nitric and chromic
(b) All inorganic salt solutions except those which are strongly oxidizing
(c) Plating solutions
(d) Inorganic bases, such as sodium hydroxide
(e) Many organic acids, such as acetic, tartaric
(f) Pickling solutions
(g) Chlorine water and hypochlorite solutions

These possibilities for synthetic rubber are of interest to many industries. For example, rubber-lined tanks are widely used for pickling steel. The rubber is protected by a brick lining. In the case of stainless steel pickling where nitric acid is used special rubber compounds are required, and rubber coated with plasticized polyvinyl chloride is considered superior in performance to the conventional types of rubber lining. Synthetic rubbers, especially neoprene and Buna S could perhaps be adapted to this service either alone or in combination with other materials.

Transportation and storage of various acids now handled with rubber-lined equipment could be handled with synthetic rubber. Discoloration of certain acids by contact with the synthetics is a problem which should receive special attention.

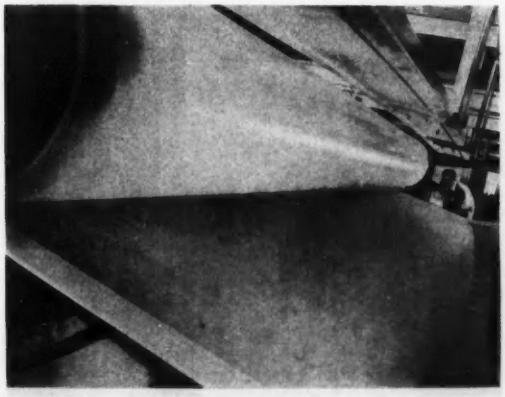

FIG. 1
Rubber Press Roll

FIG. 2
An Unusual Installation of Rubber Lining Was Made in this Bleaching Sphere for Ecusta Paper Corp., Pisgah Forest, N. C.

The plating industry makes extensive use of rubber-lined tanks. The synthetic rubbers appear to have been little used for these tanks. Some of the synthetics, especially neoprene and Buna S, have the necessary resistance to water and to the plating solutions. Adapting one or more of the synthetics would involve tests to determine whether or not plating baths would be "poisoned." It seems probable that in most cases the synthetics could be so compounded as to avoid harmful contamination of the bath.

In general, synthetics have been used in the chemical and chemical process industries only where an oil or severe heat condition exists. Obviously, they might be considered in many instances where natural rubber has sufficed. For best resistance to hot aqueous solutions, where oil is not a factor, neoprene (specially formulated) or Buna S would be preferable to the oil-resistant Buna types. Due to its better aging characteristics it is possible that Buna S might prove superior to rubber in certain of the possible applications indicated.

POLYSULPHIDE RUBBERS

There are a number of polysulphide rubbers known

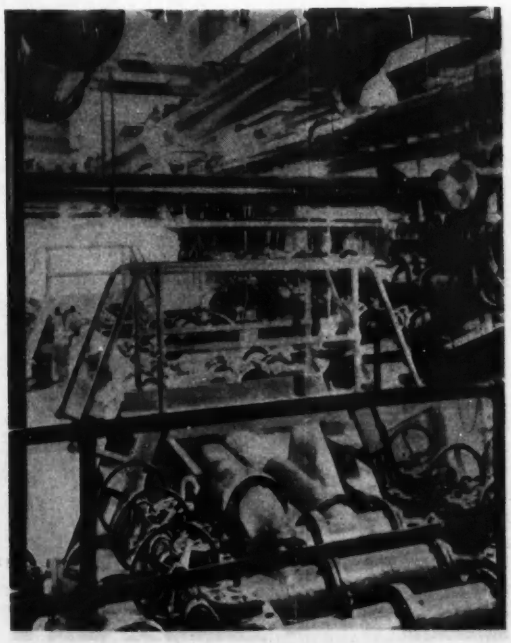

FIG. 3

under the trade name of Thiokol. They are made from an organic dihalide and sodium polysulphide. This group is best known for its exceptional resistance to oils—both aliphatic and aromatic. They are quite resilient but have poor resistance to high temperatures and severe mechanical stresses. Thiokols are excellent for hose, printers' rolls, gaskets, self-sealing gasoline tanks, and many other mechanical goods where good resistance to oil is demanded. Their use can be greatly extended if necessary during the present emergency. They are not good at high temperatures and will not withstand severe mechanical stresses.

Principal Synthetic Rubbers

From this discussion of the commercial varieties of synthetic rubber it is apparent that if all were available in quantity, rubber manufacturers could make many of the articles which are now made of rubber. Some of the synthetic articles would be better, and some would be poorer than the same articles made of natural rubber. Further investigations of the processing and compounding will make it possible to meet most of the important requirement with synthetic rubber.

In the accompanying table have been listed the principal rubbers as well as natural rubber. From this table it should be possible to choose the synthetic rubber best suited for a given condition. It must be understood, of course, that the tabulation of properties is quite general and specific compounding of any one of the synthetic rubbers might give it a different rating with respect to the specific property listed.

COMPARISON OF PROPERTIES OF SYNTHETIC RUBBERS

Rubber	Yields soft or hard rubber	Chemical Resistance	Oil Resistance	Electrical Properties	Abrasion Resistance	Heat Resistance	Cold Flow Resistance	Aging
Natural	All hardnesses	Good	Very poor	Good	Good	Medium	Good	Fair
Neoprene	Soft only	Good	Fair	Fair	Good	Good	Fair	Good
Perbunan	All hardnesses	Fair	Excellent to aliphatics hydrocarbons	Fair	Good	Good	Good	Good
Hycar O.R.	All hardnesses	Fair	Outstanding toward aliphatic oils	Fair	Good	Good	Good	Good
Thiokol	Soft only	Good	Excellent toward aro. and ali.	Fair	Poor	Poor	Poor	Excellent
Butyl	Soft only	Excellent	Poor, fair to vegetable oils and fatty acids	Excellent	Fair	Excellent	Fair	Excellent
Buna S	All hardnesses	Good	Poor	Excellent	Good	Good	Good	Good

Synthetic rubber hose has been manufactured for several years, and has been used largely for handling gas or oil. This same hose could be made and used for handling water, acids, and alkalis. Neoprene would be preferred for high temperature work or where exceptional water resistance is a factor. Thiokol is suitable for low-temperature work for many services. The Buna types could perhaps be adapted to hose manufacture if necessary.

Suction hose could be fabricated from the synthetic rubber.

Conveyor belts are widely used in the pulp, paper, and paperboard industry for conveying chips, pulp, and not infrequently for transporting logs to and from barking drums. Coal is moved on conveyor belts in the paper and other industries. Belts for these services are made in various widths and plies and are rubber-covered (all around) to prevent water from entering the carcass and in order to protect from impact, gouging, and tearing, and to provide a surface at all points that will give maximum wear value. Synthetic rubber compounds have been developed out of which good conveyor belts can be made, in fact many have already been made, especially with neoprene.

Transmission belts in the pulp, paper, and paperboard industry are used for main line shafts of drive and various general power transmission drives such as found on thrashers, pumps, and beaters. Here again synthetic rubber compounds can be used in place of natural rubber; and in cases where oil is present or where high temperatures exist the synthetic can be used to advantage.

The continuous bleaching of pulp has resulted in an extensive use of rubber in certain paper mills, chlorine and hypochlorite solutions may conveniently be handled in rubber-lined pipe and tanks in this continuous bleaching operation. Vacuum washers have been rubber-covered, usually with rubber of a hardness from 10-20 plastometer. Compounds of suitable hardness, resiliency, and with sufficient resistance to heat and chemicals can readily be fabricated from the Buna types of rubber. Some difficulties would perhaps arise in applying synthetics here, but this type of equipment could perhaps be adequately protected with synthetics as more is learned about processing them.

From the foregoing discussion it appears that it would be possible to make many of pieces of equipment from one or more of the synthetic rubbers. What difficulties will be encountered in producing all of these articles, and how they will perform as compared with natural rubber, for the most part, remains to be seen.

Styrene can be produced for 30-35c per pound and acrylonitrile at 35c. On a large tonnage basis, butadiene could be made for 10-15c per pound and the finished Buna type rubbers for 20-25c per pound. Cramer gives the following data to show what the synthetic rubbers will have to sell for in order to compete with rubber at present prices. (*Chem. Met.* p. 150, Jan., 1942.)

Product	August, 1941 Price	Density	Equivalent Price
Natural Rubber	$0.23	0.92	0.23
Neoprene GN	0.65	1.24	0.17
Buna S	0.60	0.96	0.22
Perbunan	0.70	0.96	0.22
Thiokol F	0.45	1.38	0.15
Hycar	0.70	1.00	0.23

Under present conditions a synthetic rubber would not have to compete in price with natural rubber. If suitable for a vital industrial need a synthetic rubber could sell for several times the price of crude natural rubber and could sell in large volume. It seems likely that in a free market rubber could still sell for a price well below any of the synthetic rubbers.

Acknowledgment

The author wishes to thank his associates, O. S. True and E. D. Hoff, for assistance in the preparation of this paper.

Gypsum in the Sulphate Recovery Process*

By T. T. Collins Jr.[1], H. J. Hotz[2], and E. Wiberg[3]

Abstract

A survey is made of some of the historical, theoretical, and practical aspects of the use of gypsum in the sulphate recovery cycle for increasing the sulphidity of the cooking liquor and, when used in conjunction with sodium carbonate (soda ash) which is added to the green liquor, as a 100% replacement for sodium sulphate.

For many years after the first commercial application of the kraft process by C. F. Dahl of Danzig in 1884 *(1)*, no important modifications of the chemistry of the recovery process were made and salt cake, the common designation for commercial forms of sodium sulphate, has been considered as being the most efficient and economical make-up chemical available. In more recent years, attempts have been made to substitute other substances in the recovery cycle, both with and without the addition of salt cake, in order to increase the sulphidity of the resultant cooking liquors, to reduce the soda loss in the stack gases, and to utilize cheaper substitutes for sodium sulphate without too great a sacrifice, if any, in furnace production and operation.

Since many operators of sulphate pulp mills believe in maintaining a high sulphidity in their cooking liquor, naturally many trials have been made to find chemicals which, if added to the system at various points, would result in an increase of the sodium sulphide in the white liquor without an increase in the total alkali. Niter cake or sodium bisulphate, usually considered as being about 65% sodium sulphate and 35% sulphuric acid, has often been added to the black ash alone or mixed with salt cake so that the sulphuric acid would form sodium sulphate with the alkali in the black ash, resulting in an increased input of sulphate to the furnace with the sodium makeup remaining the same. A similar effect has been obtained by adding niter cake or sulphuric acid to the black liquor as it goes to the rotary furnace. Another method which has been used is the throwing of sulphur into the ash end of the rotary furnace or to mix it with the black ash and salt cake being fed to the furnace. Bray, Martin, and Carpenter *(2)* have mixed sulphur with sodium hydroxide (caustic soda) to make a cooking liquor, which, if sent to a recovery unit after being exhausted, might produce a green liquor containing sodium sulphide. Evidently, these methods of increasing the sulphide in the smelt have not proved to be successful, either technically or economically, because they have not found widespread use and more information would be available concerning them.

Niter cake or sodium bisulphate has long been used as a substitute for salt cake and has been mixed with sufficient soda alkali to neutralize its free sulphuric acid, resulting in usable salt cake *(3)*. Recent papers by Savell *(4, 5)* and Gillespie *(6)* discuss the use of substitute salt cake *(7)* prepared by sintering sulphur and soda ash together; this being an improvement based on the older idea of mixing sulphur with the black ash and salt cake. Murdock *(8)* has mixed the spent caustic and the sulphuric acid sludge residues from petroleum refineries with black liquor in order to replace some of the salt cake makeup.

Due to the economic pressure of rising salt cake costs, the idea of utilizing gypsum or anhydrite, naturally occurring forms of calcium sulphate, together with salt cake or as a replacement in the furnace addition for salt cake, has been revived and investigated. While the feasibility of using gypsum has been known for a number of years by a few operators, little has been published concerning the subject and knowledge of the process has not been widely disseminated until within the last year or so.

The first mention of the use of gypsum in the sulphate process was made by Stevens *(1)* in 1930. He said that one mill using a natural salt cake which contained considerable gypsum found that it reduced to the sulphide and reacted in the green liquor to form sodium sulphide. Although a saving in lime resulted, the process was considered uneconomical at the time. Stevens suggested the addition of gypsum, together with salt cake, if the lime cost were high, so as to reduce the lime consumption. He did not directly suggest the addition of gypsum to the furnace for increasing the sulphidity of cooking liquor or, when used in conjunction with soda ash, as a substitute for salt cake and it was not until the Solvay Process Company issued a report by Schuber and Phelps *(9)* in 1940 on the replacement of salt cake that we find the process completely described. Schuber, in a personal communication, states that gypsum has been used commercially by two or more sulphate mills in the south as far back at 1926. Gillespie *(6)* refers to revived interest in anhydrite and soda ash. A recent paper by Kress and Aiken *(10)* is a study of the reduction of calcium sulphate to calcium sulphide and the conversion of the latter to sodium sulphide. The applicability of these reactions to the sulphate process is also discussed, together with an economic analysis of the substitution of soda ash and either gypsum or anhydrite for salt cake.

Utilization of Gypsum

In the early part of 1929, Hotz and Zeundell, chemists for the Central Paper Company of Muskegon, Michigan, conceived the idea of using gypsum to increase the sulphidity of cooking liquor and, when mixed with soda ash, to replace salt cake as a makeup chemical. In discussing the various reactions on the Le Blanc soda process they thought of using calcium sulphate to replace sodium sulphate and sodium carbonate to replace the calcium carbonate—i.e., a juggling of the acid radicals.

$$Na_2SO_4 + CaCO_3 + 3C \rightarrow Na_2CO_3 + CaS + 2CO_2 + C$$

Scheurer-Kestner *(11)* in 1865 defined the major

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chemical reactions of the Le Blanc process to be as follows:

(1) $Na_2SO_4 + 2C \rightarrow Na_2S + 2CO_2$
(2) $Na_2S + CaCO_3 \rightarrow Na_2CO_3 + CaS$ } In the furnace
(3) $CaCO_3 + C \rightarrow CaO + 2CO$
(4) $Ca(OH)_2 + Na_2CO_3 \rightarrow 2NaOH + CaCO_3$ In the dissolving tank.

Hotz and Zeundell suggested that the reactions which might take place are as follows:

(5) $CaSo_4 + 4CO \rightarrow CaS + 4CO_2$ In the fire bed (smelting zone)
(6) $CaS + Na_2CO_3 \rightarrow Na_2S + CaCO_3$ In the dissolving tank.

The sodium carbonate and carbon for the reaction were to come from the black ash and the sodium loss was to be made up either at the furnace or the causticizing tank with soda alkali. They also assumed that the calcium sulphide would be converted into sodium sulphide in the dissolving tank and would result in a saving in the amount of lime used for causticizing the liquor. They clearly understood that a portion of the Le Blanc process, Equation 2, would have to be reversed as shown by Equation 6. It was not until after the theoretical aspects had been discussed that several test runs using the proposed process were made and a summary of some of the original data is included in this paper.

In comparing some of the chemical and physical properties of the substances which form the major reactants and products of the process, we find several things of interest to consider.

1. Melting and reduction temperatures

Kelly *(12)* gives the melting point of calcium sulphate at 2367 deg. F. while sodium sulphate melts at 1623 deg. F. Due to this difference in melting points, one would predict that a furnace should be operated as hot as possible and with a high fuel bed in order to reduce the gypsum, even though the reduction of salcium sulphate to the sulphide has been shown to take place in a temperature range (1300-1700 deg .F.) below the melting point by Zawadzki, Konarzewski, Lichtenstein, Szymankiewicz, and Wachsztejnski *(13, 14)*, Terashkevich and Evetskii *(15)*, and Kress and Aiken *(10)*. Above 1700 deg. F. the amount of calcium sulphide formed begins to decrease *(14)* and instead is produced calcium oxide and sulphur dioxide.

2. Conversion of calcium sulphide to sodium sulphide

In 1863, Scheurer-Kestner *(16)* found that calcium sulphide is relatively insoluble in water but is slowly decomposed by a solution of sodium carbonate into sodium sulphide and calcium carbonate. Kolb *(17)* found in connection with the Le Blanc process that on boiling sodium carbonate with calcium sulphide, the reversed reaction amounts to only 3.7% in 4 hours. This would indicate that the reaction would not reverse sufficiently in the dissolving tank to give a significant lime saving.

3. Heats of reduction

The calculated heats required for reducing salt cake or an equivalent amount of the different forms of calcium sulphate to the sulphide are as follows, based on heats of formation at 20 deg. C.:

$$\frac{1.8\ (326{,}400 - 89{,}900)}{142} = 3000 \text{ B.t.u. per pound of } Na_2SO_4.$$

Since 1.0 pound of Na_2SO_4 contains SO_4 equal to 0.9o pound of anhydrite or $CaSO_4$, or 1.21 pounds of gypsum or $CaSO_4.2H_2O$ which loses its water of hydration below 325 deg. F. to become $CaSO_4$,

$$\frac{1.8\ (335{,}720 - 113{,}500)}{136.14} \times 0.96 = 2825 \text{ B.t.u. per 0.96 pound of } CaSO_4.$$

Although these calculations show that an amount of calcium sulphate chemically equivalent to sodium sulphate requires less heat for reduction to the sulphide, the steam output of a recovery furnace will not necessarily increase when anhydrite is substituted for salt cake because of the differences in specific heats, melting points, heats of fusion, reduction temperature zones, and particularly in the case of gypsum, the presence of water of hydration. Since the physical data available are inadequate for an accurate calculation of the heat required to complete the chemical reactions of either process, actual mill operation will more easily furnish the correct answer to the problem.

Application of Gypsum

In order to study the practical application of the proposed process to the ordinary sulphate recovery system, several tests have been made in which gypsum alone or gypsum and salt cake were added to the black ash as it fell out of the rotary burner into an old Swedish-type furnace. In the former case the soda loss was made up by the addition of soda ash to the green liquor before it was causticized.

The earliest experiment was that of the addition of gypsum along with the regular salt cake charge to increase the sulphidity of the cooking liquor. The data are incomplete, but the following summary shows the general results obtained. The following liquor titrations are expressed as pounds of Na_2O per cubic foot.

A. With salt cake alone.

	Green Liquor	*White Liquor*
Na_2CO_3	4.02	0.85
NaOH	1.29	4.46
Na_2S	1.98	1.98

Furnace production 972 pounds titratable alkali per hour.
Sulphidity—27.2% (30.7%)[1], Causticity—61.2% (84.0%)[2], Activity —88.3%.

B. With salt cake plus 160 pounds of gypsum per hour.

	Green Liquor	*White Liquor*
Na_2CO_3	3.90	0.89
NaOH	1.27	4.30
Na_2S	2.29	2.27

Furnace production 915 pounds of titratable alkali per hour.
Sulphidity—30.4% (34.5%)[1], Causticity—57.6% (82.9%)[2], Activity —88.0%.
An anticipated saving in the lime used for causticizing was not realized.

Tests covering a period of several days were made recently with the same furnace used for the earlier experiments. The source of calcium sulphate was so-called "land plaster" which contains 93% calcium sulphate and is a finely ground powder. The source of sodium salts was a low grade of soda ash which analyzed 62.8% Na_2CO_3 and 37.2% inert.

For part of the tests the land plaster was added to the furnace instead of salt cake and an amount of soda ash equivalent to the sodium in the salt cake was mixed with the green liquor. The regular amount of sodium sulphate of 325 pounds per hour (142 pounds of Na_2O) was to be replaced with 335 pounds of land plaster (93% $CaSO_4$) to maintain an equal sulphate input but through a misunderstanding the land plaster was cut to 263 pounds per hour or 78.5% of the required amount. The average input of soda ash into the green liquor was 387 pounds per hour (142 pounds of Na_2O).

The average tests of the resultant liquors were as follows:

A. With salt cake.

Furnace production (titratable Na_2O in pounds per hour)	982
Pounds of causticizing lime (85% available CaO) used per pound of titratable Na_2O produced	0.61
Settling rate of causticized liquor (feet per hour)	4.1

White Liquor: Sulphidity—21.6% (25.3%)[1], Causticity—63.9% (81.5%)[2], Activity—85.5%.

B. With calcium sulphate and soda ash.

Furnace production (titratable Na_2O in pounds per hour)	1045
Pounds of causticizing lime (85% available CaO) used per pound of titratable Na_2O produced	0.57
Settling rate of causticized liquor (feet per hour)	5.5

White Liquor: Sulphidity—18.9% (22.8%)[1], Causticity—64.0% (79.0%)[2], Activity—83.0%.

Since the liquor was causticized and settled by the batch system, settling tests were taken by measuring with a glass tube the depth of the sludge zone 30 minutes after the agitator was stopped and that depth was used to calculate the settling rate.

During the period in which the calcium sulphate was used, nothing out of the ordinary was observed in furnace operation. If anything, the smelt flowed more easily and the explosions caused by the smelt dropping into the liquor in the dissolving tank were not as noisy as when salt cake was used.

These tests indicate that the liquor made with calcium sulphate and soda ash would have had a higher sulphidity had the correct amount of calcium sulphate been added to the furnace.

Conclusions

The modified sulphate recovery process utilizing soda ash and calcium sulphate to replace salt cake or calcium sulphate together with salt cake to increase the sulphidity of cooking liquors is a workable one, although it apparently has its limitations. The results indicate that a decrease in furnace production, in this case 6%, may occur when gypsum is added with salt cake for increasing the sulphidity of the liquor. It is admitted that other factors, such as, plugging of the furnace with damp black ash, may have been responsible for the decrease. No noticeable saving in the amount of lime required for causticizing was observed.

The substitution of calcium sulphate for salt cake at the recovery furnace with the soda loss made up by adding soda ash to the green liquior brings forth several interesting points, some of which have been mentioned by other investigators.

1. Furnace production of alkali was increased 6.4% over a two-day period. This may have been due partially to a decrease in the soda going out the stack but time was not available to allow verification by stack loss measurements.

2. The settling rate of the lime sludge in the causticizing tanks was increased when soda ash and calcium sulphate were used. This is to be expected in a case of this sort as a considerable portion of the calcium comes out of the furnace as carbonate, forming sludge in the dissolving tank which later serves as precipitation nuclei for the sludge resulting in the causticizing step if the green liquor is not settled before the lime is added. This increased settling rate may be due to a larger particle size of the sludge. Schuber and Phelps *(9)* found that this sludge in the green liquor aided in settling (apparently clarification before the causticizing step) while Kress and Aikon *(10)*, who filtered off the carbon and presumably the calcium carbonate resulting from the gypsum, found no change in the settling rate of the sludge after causticization when gypsum was used.

[1] The percentage sulphidity in parentheses was calculated by the equation:

$S = Na_2S/(Na_2S + NaOH)$.

[2] The percentage causticity in parentheses was calculated by the equation:

$C = NaOH/(NaOH + Na_2CO_3)$.

3. When the causticity values of the finished white liquor are taken into consideration, it is seen that a saving of lime of about 6.6% occurred when calcium sulphate was introduced in the place of salt cake but the saving was not as large as would be anticipated from theoretical calculations. This should be compared with the statement of Lientz *(18)* that "the calcium carbonate in the furnace is not reduced to calcium oxide and the fresh lime makeup and causticizing system art not improved." In this experiment only 93.4% as much lime as usual was required for causticizing but there was an increased amount of sludge due to the calcium sulphate input which meant, if we had been reburning our lime, that the fresh lime input would probably have been lowered to some extent for that reason also. The saving in lime results from these two reactions, neither of which takes place to any great degree under ordinary conditions.

$$O_2 + CaS + CaSO_4 \longrightarrow 2CaO + 2SO_2$$ (In the furnace above 1700 deg. F.)

$$CaS + Na_2CO_3 \longrightarrow Na_2 + CaCO_3$$ (In the dissolving tank)

Kress and Aiken *(10)* have shown that the second reaction takes place in the furnace and that accounts for the fact that although the sodium sulphide appears in the green liquor, the amount of lime saved is correspondingly much less.

4. These results show, generally speaking, that every ton of salt cake will have to be replaced with an equivalent amount of sodium in the form of soda ash and sulphate in the form of gypsum or anhydrite in order to maintain furnace production and an equal sulphidity of liquor. Some savings in chemical makeup, both soda and lime, are possible but more extensive tests than these will be required to show their magnitude.

5. The technically and economically successful utilization of gypsum and soda ash to replace salt cake in sulphate recovery will depend upon the delivered prices of chemicals, their handling costs, and the efficiencies of the different reactions in the various types of furnaces and causticizing equipment found in mills. Economic studies from the very beginning must to a great extent be based on empirical data covering extended trials because there is not too much correlation between theoretical prediction and actual results in the application of this process.

Acknowledgment

The authors wish to express their thanks to John Schuber of The Solvay Process Company for permission to use some of the historical data presented in this paper.

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Fiberizing of Kraft Screenings for Paper and Paperboard Furnishes*

By Clinton K. Textor[1]

Abstract

Tests were made to establish the merit of fiberizing as a preliminary operation in the preparation of kraft rejects for paper and paperboard production, especially in comparison with the use of jordans and similar equipment in refining screenings.

Defibered screenings are easily freed from black liquor and so the operation assists in color improvement. Preliminary fiberizing effects a marked reduction of the "sawdust" in the refined screenings by breaking up the fiber bundles before they reach the stock preparation jordans and other cutting equipment. Strength may be developed in defibered screenings with relatively little loss of freeness.

Radically different water removal rates (both by pressure and by evaporation) are disclosed for a given freeness when furnishes of differing character or of differing preparation are tested.

The practice of refining pulp mill rejects for use in paper and paperboard furnishes is almost as old as the pulp-producing processes themselves. For years many mills have been processing screenings by a variety of procedures and converting the refined material into products for the market.

However only a small proportion of the total production of screenings is refined and so finds its way into commercial use. A considerable proportion is returned to the digesters for recooking, while a large quantity is discarded as a waste, and so represents a disposal cost or, in some instances, material for stream pollution.

The main reason for this situation is that many mills, particularly those making higher grades, produce no grade for the market which would accept the refined screenings, especially when the refining is performed haphazardly in discarded beaters and jordans pressed into service for this job.

Rejects from chemical pulp mills are basically semichemical pulp and so might well be considered as a prime product rather than as a byproduct or waste product. But while in general rejects are comprised of normal wood which, due to faulty circulation or other causes, escaped complete digestion, they also contain knots and other substances which would produce poor fiber at best. They are always inferior, though in varying degree, to the accepted pulp which they accompany. As usually refined, the product is generally considered unfit for normal grades of paper and paperboard, because of low color, dirt, shives, or "sawdust"; because of low strength (especially tear and fold); and because the product is so slow that standard machine speeds can not be maintained.

A thorough preliminary fiberizing of pulp mill rejects has been shown to effect distinct improvement in all of those features which have limited the commercial use of refined screenings.

"Fiberizing" or "defibering" refers to procedures by which fibrous aggregates (chips, old papers, etc.) are reduced to a mass of separated individual fibers, ideally, without any cutting, hydrating, or other physical work done on the fibers themselves. In the experimental work here described, *fiberizing* was accomplished by means of revolving disk apparatus.

Green *(1)* has shown with experimental data the radical superiority of pure impact over knife-edge or bar action treatment in stock preparation. This superiority obtains as regards both quality and power consumption. The degradation of pulp quality by knife-edge or bar action is far more serious in the case of screenings than it is when applied to thoroughly cooked pulp, simply because it is easier to cut a bundle of fibers than it is to cut the more pliable individual fiber. Even when well-cooked pulp is to be refined, we learn from old time beater art that putting the roll down fast at the start of beating means spoiling the batch, but that after the proper preliminary treatment, it is next to impossible to hurt the fiber.

Several of the characteristics which usually prevent the use of screenings in the normal products of a paper mill may be improved by a fiberizing treatment.

Color and Dirt

The low color of pulp made from rejects is in part the natural consequence of undercooking the chips and, in part, is due to the inclusion of black liquor that cannot be leached out in the time required to wash pulp free from spent liquor.

Defibered screenings are free and easily washed by conventional methods. This washing improves the color of the product to the extent that the discoloration is due to black liquor.

Much of the dirt frequently found in refined rejects can be removed by modern apparatus involving some form of centrifugal separation.

Sawdust

One of the distinguishing characteristics of screenings refined by knife-edge equipment is the presence of innumerable thick shives or fine sawdust which persists even after the pulp has been beaten to greaseproof slowness. Part of this may really be sawdust that has come from the wood room through the entire process. But the majority of these particles results from the cutting action of knife edges on fiber bundles in the early stages of preparing the rejects for the paper machine.

This feature is quite obvious in a visual inspection of handsheets, both by examination of the surface and by looking through the sheet. But it is difficult to illustrate this effect for the record by any thoroughly reliable procedure. The best method devel-

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 16-19, 1942.

[1] Member TAPPI; in charge Pulp and Paper Division, Bauer Bros. Co., Springfield, Ohio.

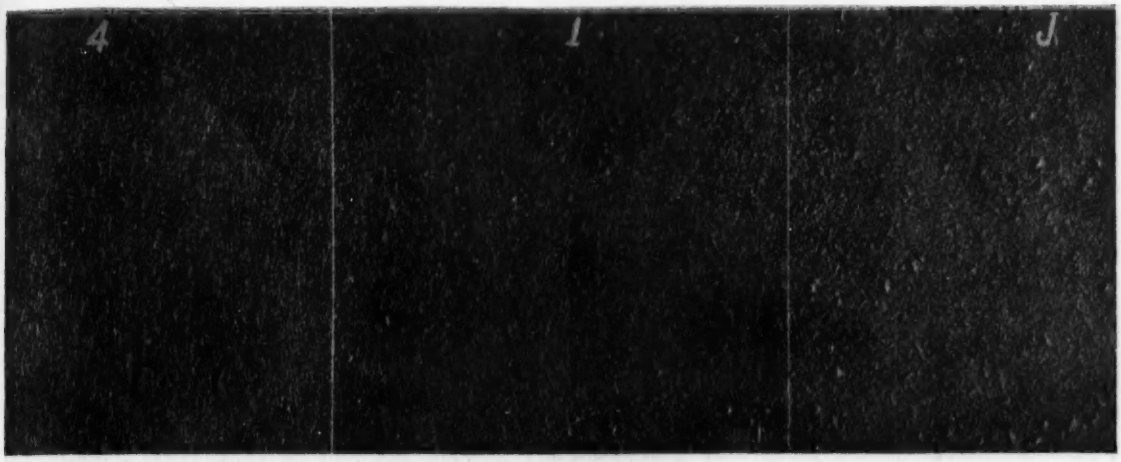


FIG. 1
Surface Appearance of Sheets Made from Kraft Screenings, Variously Refined; Before Beating. (About ½ Actual Size)

oped comprises photographing the surface illuminated with oblique light. Figures 1 and 2 were prepared in this way. In each case a group of three samples was photographed for ease of comparison. In Fig. 1, three products derived from kraft rejects, ready for delivery to a stock preparation system, are shown. Sample 4 is from defibered fine screen rejects; Sample 1 is from defibered knots; and Sample J is from mixed knotter and fine screen rejects after reduction in a jordan in regular mill operation. Figure 2 shows these same materials after 40 minutes treatment in a laboratory beater.

It will be noted that all samples shown in Fig. 1 contain sawdust particles, but that the jordanned material, Sample J, is peppered with these large shives; that the fiberized knots, Sample 1, has much less sawdust; and that these particles are almost absent in Sample 4, defibered fine screen rejects.

Figure 2 indicates that 40 minutes in the laboratory beater fails to eliminate the sawdust. The particles seem to be just about as numerous as in the original material, though perhaps a little smaller. The freeness of the stocks shown by the sample are:

Before Beating		After Beating	
Sample 4	726 cc.	Sample 4-40	580 cc.
1	688 cc.	1-40	528 cc.
J	588 cc.	J-40	175 cc.

The freeness of sample J-40 would be too low for most commercial paper machine operations, while it will be seen that the fiberized material, after beating, is still free enough to run on practically any paper machine.

Strength

Defibering is considered here as a treatment preliminary to the regular stock preparation processes. In the contemplated flow sheet the fiberized rejects would be mixed with the raw pulp and then receive additionally the same jordanning that would be applied to the pulp itself. This is strictly in line with

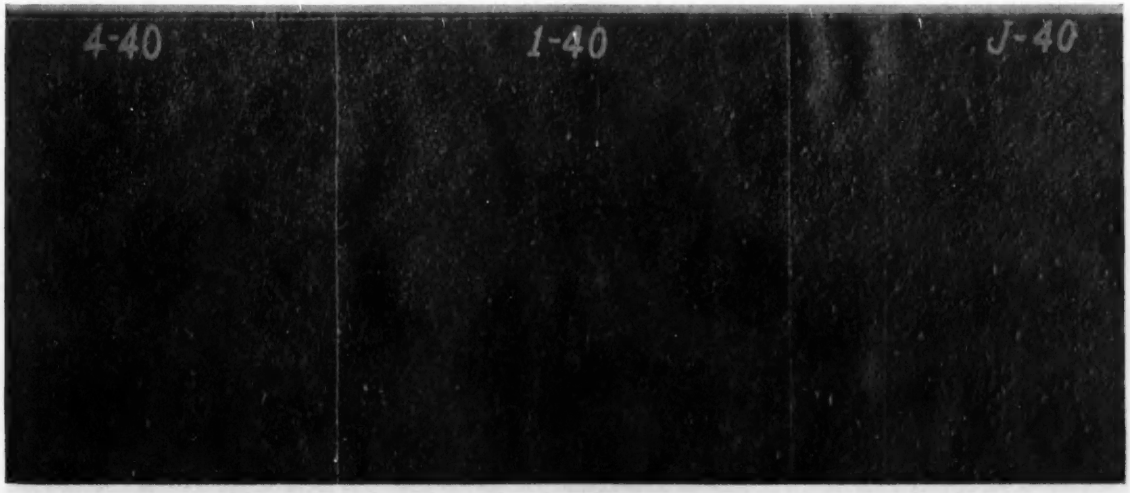


FIG. 2
Surface Appearance of Sheets Made from Kraft Screenings, Variously Refined; After Beating. (About ½ Actual Size)

TABLE I.—LABORATORY BEATER TEST DATA, KRAFT SCREENINGS

Run	HP.-Days per Ton	Strength Development: Beating Time (Minutes) 6500 grams on Bedplate — Freeness, cc. 0	*0.5	5	10	15	20	25	40	60	Burst, % 0	*0.5	5	10	15	20	25	40	60	Tear, % 0	*0.5	5	10	15	20	25	40	60
J	...	588	540	500	430	370	320	275	175	...	49.8	59.2	64.8	70.1	75.6	80.4	78.3	87.4	...	183	184	181	184	186	196	193	188	...
1	29	688	670	650	637	630	600	606	528	...	28.6	25.2	30.6	36.8	39.7	46.2	50.3	58.5	...	135	127	180	197	205	197	188	181	...
2	21	718	720	715	705	695	690	682	582	502	22.6	21.0	27.8	32.9	36.9	43.6	46.8	57.5	70.2	116	114	224	189	200	204	235	205	183
3	12	743	745	735	735	730	725	720	620	590	18.9	15.7	21.7	20.5	30.8	38.2	43.3	58.2	69.8	112	66	119	134	169	176	175	202	186
4	25	726	735	735	730	720	705	700	580	470	17.8	27.5	41.1	43.6	60.1	63.5	74.5	88.1	97.0	233	210	247	253	284	309	277	243	233
5	17	745	730	720	720	715	700	670	615	485	35.1	41.5	34.9	48.7	61.4	74.4	87.2	102	...	229	155	220	219	275	251	249	245	226
6	12	747	725	725	722	712	710	708	640	520	29.0	16.8	26.4	39.4	39.6	61.4	66.6	89.8	106	182	135	203	248	303	278	298	245	238

* 0-5 indicates 5 minutes treatment in the laboratory beater with roll raised.

TABLE II.—RATE OF DRYING DATA, KRAFT SCREENINGS

Sheet Dryness (% Solids) in Minimum Drying Time at 100 deg. C.

Sheet	Standard sheet formation and standard pressing used for all tests. 0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
4-15	49.1	59.4	68.2	76.4	83.3	89.2	94.5	97.9	99.8	100	100	...	...	...	...	...	...	...	...	...
4-40	44.5	51.2	58.1	65.4	71.4	77.8	83.1	87.7	91.5	95.1	97.8	99.5	99.9	100	100	...	...	...	...	...
1-40	46.4	54.9	63.2	70.8	78.0	84.3	89.7	94.2	97.8	99.5	99.9	100	100	...	...	...	...	...	...	...
J-05	38.95	43.55	48.35	53.1	58.1	62.7	67.6	72.1	76.6	81.0	84.9	88.9	92.4	95.5	97.7	99.3	99.8	99.9	100	100

the mill procedure employed in connection with the rejects refined by jordanning.

To forecast the quality of the refined screening after the additional jordanning and their probable effect on the furnish, a series of laboratory beater tests were made upon a sample of the jordan refined screenings, upon three samples produced from kraft knots at different degrees of defibering, and upon three samples of fiberized rejects from the flat screens. The results are shown in Table I.

All numerical expressions of physical qualities used in this report resulted from uniform testing procedures, following TAPPI Standard as far as equipment and facilities permitted. The freeness figures are readings obtained with the "new Green" instrument.

The samples of knots and rejects were obtained simultaneously and so the results may properly be compared. But the jordanned screenings samples were obtained a few days later and so only general conclusions may be drawn from comparisons of this material with the fiberized screenings.

The data given in Table I indicate that the defibered rejects from the fine screens are definitely superior in all respects to the fiberized knots, and to the mixed rejects after jordanning. The situation between the defibered knots and the jordanned material is rather obscure. At any given common freeness, the tear and burst seem to be about equal. The main difference lies in the freeness feature; the jordan preparation delivered a product that was so slow that the additional jordanning it must receive after mixture with the raw pulp would further slow it to such an extent as to impede the drainage and drying rates of the paper machine.

Drainage and Drying Rates

The probable effect of differing characteristics of raw material and differing methods of preparation was studied by preparing handsheets under controlled uniform conditions, especially as regards time and pressure; these sheets were then hung in a thermostatically-controlled drying oven equipped with a chemical balance.

The weight of the sheet was observed at intervals until constant weight was achieved. The moisture content of the sheet after pressing is taken as an indication of the ease of water removal in the paper machine presses; and the rate of drying between 50% and 95% moisture-free is taken as a measure of the ease of water evaporation. The data of these tests are

FIG. 3

Drying Rates of Kraft Screenings of Various Character and Variously Prepared

shown in Table II and by the curves in Fig. 3, in which per centage moisture-free is plotted against time in the oven.

The sheet used in the test represented by Curve 4-15 was made from defibered fine screen rejects after 15 minutes treatment in a laboratory beater. The sheet used in Curve 4-40 was made from the same fiberized rejects after 40 minutes of laboratory beating.

The drying characteristics of the defibered knots, after a subsequent treatment in the laboratory beater for 40 minutes, are shown in Curve 1-40. The Curve J-05 represents the data of a drying test made on a sheet produced from mixed knotter and fine screen rejects refined commercially with a jordan, after "opening up" for 5 minutes in the laboratory beater with roll raised.

A comparison of Curves 4-15 and 4-40, with reference to the data in Table I, seems merely to confirm the customary practice of controlling stock preparation by means of freeness tests. The development of strength in the fiber is accompanied by a progressive loss of freeness which would suggest that water removal would become progressively more difficult, both by pressure and by evaporation.

But a comparison of all four curves in Fig. 3 suggests that the assumption that stock is properly prepared for a definite paper machine product when it is refined to a standard freeness, based on previous successful experience, is sound only when it applies to the same quality of stock previously used and when the treatment is performed by the same equipment and procedure previously employed. The furnish used in tests represented by Curves 4-40, 1-40 and J-05 have about the same freeness, but the time required for water removal from Sheet J-05, is more than 30% longer than from 4-40 or 1-40. And the strength at a given freeness is seen definitely as a function of the procedure by which the strength was developed.

The above data indicate that processed fiber of different though similar origin, may have radically different drainage and drying rates. No completely satisfactory conclusions can be drawn from the data relative to the influence of different refining methods on the water removal characteristics, as unfortunately facilities were lacking to apply the different preparation methods to identically the same material. However, the marked superiority of the defibered products from both knotter and fine screen rejects over the product obtained from mixed rejects by jordan treatment, suggests very strongly that the procedure by which a given freeness is achieved has a profound bearing upon the water removal characteristics of a fiber.

Literature Cited

1. Green, A. B., Tech. Assoc. Papers 22:326 (June, 1939).

Forming Handsheets for Optical Tests of Pulp*

TAPPI Tentative Standard T 218 m-42

This procedure is not intended for making test sheets for other optical tests of pulp than those which have been adopted by TAPPI. It is designed, however, for application to all unbleached and bleached pulps provided that they have been so processed in manufacture that the individual fibrous elements have become separated. The method describes a technique which permits the preparation of a reasonably smooth and reproducible surface for optical measurements with a minimum of washing and contamination of the sample. This precludes the use of the sheet mold as specified in TAPPI Standard T 205 m, because of the large volume of dilution water, its uncertain purity, and the possible contamination of certain unbleached pulps with copper.

Apparatus

The following equipment as specified in Standard T 205 m-40 is required:

1. Standard disintegrator.
2. Standard pump and press with pressure gage.
3. Press template for centering the sheets in the press.
4. Three or more drying rings with rubber seatings for holding the sheets during drying.
5. A quantity of sheets of standard white blotting paper, eight inches square, 0.0195-0.0205 inch thick, weighing 245-255 grams per square meter, and having an absorbency such that when strips are immersed in distilled water at 15 deg. C. the average height to which the water rises in 10 minutes in both machine and cross directions is from 40 to 60 mm.[1]

The following additional equipment also is required:

6. Porcelain Büchner funnel, inside diameter 16 cm.
7. Suction flask, capacity 1500 cc. or more.
8. A supply of rapid-draining white filter paper, 15 cm. in diameter and free of soluble impurities.
9. A supply of uncreped white filter paper, 18.5 cm. in diameter and free of soluble impurities.

Sampling

The sample shall be so selected that it accurately represents the pulp as a whole. The weight of the sample shall be equivalent to at least 20 grams of dry fiber.

Storage and Pulp Samples

The optical properties of many pulps may change significantly during the first few hours after manufacture. As a control test, therefore, optical readings are sometimes of little value unless taken at a definite interval after processing. This interval should be stated in the report. In any event, the pulp samples

* In the suggested method for Brightness of Pulp, T 217 sm-41, published in the *Paper Trade Journal* December 25, 1941, a section was devoted to the forming of handsheets for brightness test. Since this procedure for forming handsheets is also applicable to other optical tests it has been decided by the TAPPI Standards Committee that this should be taken out of the method for Brightness of Pulp and published as a separate method for Forming Handsheets for Optical Tests of Pulp.

[1] Paper according to specification may be obtained from the Wrenn Paper Company, Middletown, Ohio, and from the Standard Paper Manufacturing Company, Richmond, Virginia.

should be stored in such a manner that they are not subject to contamination, to change in moisture content, or to the influence of light and/or elevated temperature.

Test Specimen

Weigh out to the nearest 0.1 gram a representative specimen equivalent to 4 grams of moisture-free fiber.

Procedure

1. DISINTEGRATION

Dilute the specimen to 2000 cc. with *distilled* water at room temperature and disintegrate for 15,000 revolutions in the standard disintegrator. Immediately divide the contents of the disintegrator equally between two 1-liter graduated cylinders.

2. SHEETMAKING

Insert the Büchner funnel in the neck of the suction flask and set the flask upon a level surface. Place a sheet of the 15-cm. filter paper in the funnel and wet it with distilled water from a wash bottle. Apply suction momentarily in order to seat the filter paper properly in the funnel. Ascertain that the funnel is level by pouring a few cubic centimeters of distilled water on the filter paper and sucking this water slowly through the paper. The water layer should disappear simultaneously over the entire area of the filter.

Applying suction, rapidly pour in one liter of the disintegrated stock. Continue the application of suction to the filter flask until the excess water has been removed, then turn off the suction line, and remove the funnel immediately in order to avoid drawing air through the pulp mat.

3. PRESSING

Lay two new pieces of standard blotting paper on the press, felt side uppermost. Upon these, lay one sheet of the 18.5-cm. filter paper with its felt side uppermost. Invert the Büchner funnel over the press and, by blowing, deposit the handsheet, with its filter paper, centrally upon the surface thus prepared. Center the sheet by means of the press template. Cover with two more new pieces of standard blotting paper, felt side uppermost.

Repeat the operations of Items 2 and 3, using the other liter of disintegrated stock. The stock will then consist of a repetition of the following series: two blotters, 18.5-cm. filter paper, brightness handsheet, and 15-cm. filter paper. Finally, lay two blotters on the uppermost sheet. If required, as many as five pairs of handsheets may be pressed simultaneously in this manner.

Put on the cover of the press and screw the wing nuts down hand tight. Raise the pressure, as indicated by the gage, to 50 pounds per square inch[1] in one-half minute from the time the needle begins to move, and maintain it there for 5 minutes. At the end of that time, release the pressure and remove the press cover.

4. DRYING

Remove the stack from the press and fit the test sheets, still covered with filter papers, into a set of drying rings in such a manner that the 18.5-cm. filter paper supports the sheet. Place a heavy weight on top of the pile.

Dry the test sheets with the attached filter papers in the drying rings at room temperature in an atmosphere with relative humidity not over 65%. To accelerate the drying operation, circulate the air through the drying rings by means of a fan, but do not use hot air.

5. TESTING OF SHEETS

After the sheets are thoroughly air dry, remove them from the drying rings with the filter papers attached. Do not remove the latter until the sheets are cut into tabs for the optical readings. The test surface shall be the one next to the 18.5-cm. filter paper, which was the top surface as the sheet rested in the Büchner funnel.

The interval between the sheet formation and the actual testing shall not be less than 2.0 nor more than 4.0 hours, as in some instances the optical properties of the sheets may change with time.

[1] This is equivalent to approximately 60 p.s.i. on the sheet.

Additional Information

This method is adapted from Method No. 412 of The Institute of Paper Chemistry, Appleton, Wis.

Reference

Koon, Charles M., and Niemeyer, Donald E., "The Influence of Certain Variables in Forming Brightness Handsheets" *Paper Trade J.* 114, no. 5:30 (Jan. 29, 1942).

Plan for TAPPI Fall Meeting

The 27th Fall Meeting of the Technical Association of the Pulp and Paper Industry (TAPPI) will be held in Boston, Mass., from September 30 to October 1, 1942, inclusive. The TAPPI Convention Headquarters will be established at the Hotel Statler in Boston.

All effort will be made to develop the timely opportunity afforded by this annual fall meeting toward definition, discussion and solution of the problems confronting the Industry as a part of our Country's Victory effort.

Serious cooperative planning for most efficient service will be paramount and the educational program, conference opportunities and recreation activities will be planned to be productive of the best development of this theme.

Consistent thorough work by the TAPPI Convention committees will insure an attractive and well ordered meeting.

Committee chairmen have been named and committees formed. These committees are organized and functioning.

The convention committees are making an all out effort to make this meeting one to be remembered.

Boston is well known for the part it has played in the history of our Country. There are many places you and your family will enjoy visiting. We will tell you more about these places in detail later on.

The hotel facilities in Boston are exceptionally good. There are many other good hotels in the immediate vicinity. Further details on rates and reservations will be published soon.

For the present, your committee asks that you plan to attend the TAPPI Convention and mark the dates on your calendar as a reminder.

Remember one thing—by next September we will probably appreciate more than ever the conservation of critical materials and you will have an opportunity at this meeting to discuss your problems and swap ideas with your fellow members to help "Keep 'em Rolling", "Keep 'em Flying", and "Keep Democracy from Dying."

The National Headquarters of the Association is at 122 East 42nd street, New York, N. Y.

Imports of Paper and Paper Making Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

Importers may have their shipments listed in these columns by submitting records of importers to this publication.

NEW YORK IMPORTS

WEEK ENDING MAY 2, 1942

SUMMARY

Newsprint .....3,837 rolls

NEWSPRINT

——, ——, ——, 3515 rolls.
——, ——, ——, 322 rolls.

RAGS, BAGGINGS, ETC.

Castle & Overton, Inc., ——, ——, 121 bls. rags.
S. Godfrey, ——, ——, 10 bls. rags.
——, ——, ——, 5452 bls. cotton linters.
——, ——, ——, 1920 bls. cotton linters.

GLUESTOCK

Darmstadt Scott & Courtney, ——, ——, 397 bags old pickers.

WOODPULP

——, ——, ——, 1462 bls. wood pulp.

BONES

Armour & Co., ——, ——, 1850 bags.
——, ——, ——, 2349 bags.

CASEIN

Manufacturers Trust Co., ——, ——, 1167 bags.
——, ——, ——, 1695 bags.
——, ——, ——, 834 bags.

Demand Slackens at Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 4, 1942—Last week saw some slackness in the paper demand in this territory, most of the slackness being reported in the fine paper field. A general decline in advertising, there being so many commodities off the market due to priorities, is becoming noticeable. Direct by mail advertising has dropped to a noticeable degree. Prices on most items remained stable and there is no indication of any abrupt changes.

Activity in box factories in this section remains about the same. Most factories are working to capacity or as much as their raw material supplies will permit. Some factories have run short of raw materials and work is suspended until new supplies arrive and it is doubtful if any has more than a week's supply. Most of them are working from a day to day basis as low as is possible. Many factories, however, are supplying the many defense industries in this section and are able to get material.

Demand for newsprint continues to lag somewhat, due to advertising conditions. For the most part local advertisers have taken up the slack caused by the large national advertisers cutting their space requirements, but this is not enough to keep lineage to the levels of the same time last year.

Kraft continued in good demand last week with supplies scarce and prices firm to strong. Tissues also were in good demand. Demand for summer specialties increased largely last week with the coming of real summer weather, when temperatures for the time of the year broke all records. Supplies are limited. Prices were strong.

Building paper demand continued light, but there are indications of a revival. Because this area is a highly concentrated defense zone, builders are now being able to get supplies that otherwise would have been curtailed. Roofing also is in good demand.

Waste paper demand was only fair last week. Mill orders were not as heavy as has been the rule since the first of the year, but stocks are relatively low locally. New rag cuttings were in good demand and other qualities were selling fairly steady.

Paper Production Short

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C,. May 6, 1942—Heavy demand for paper and paperboard this year and dfficulties in the way of manufacturing the necessary pulp are expected to make the pulp supply problem acute during the year according to B. M. Frost of the Department of Commerce discussing some of the basic problems of the paper industry.

Miss Frost states that production of paper and board may fall short of maximum by 12 or 15 per cent, owing to lack of basic stock.

Several factors other than the greatly increased need for paper and paper products may contribute to pulp shortages, she says. Of primary importance is the lack of sufficent labor in the woods. Of almost equal importance she points out is the tire situation, which threatens delivery of logs to the mills. Current rationing would not provide enough tires for pulpwood deliveries. It is said that this condition has been met in New England, northern New York, and the North Central States by granting tire priorities for a three month period to pulp mills in those areas.

Diversion, Miss Frost says also, will contrbute to pulp shortages. Bleached sulphite pulp for nitrating purposes increased from 100 tons a day to 300 tons a day during February.

Genesee Valley Paper Co. Moves

The Genesee Valley Paper Company, Inc., Rochester, N. Y., sent out the following statement which is self-explanatory:—

"The War Department has asked our co-operation in relinquishing our lease on the building we have occupied since the organization of our company, to permit its use for the production of war material.

"We are pleased to announce, therefore, that beginning May 1, 1942, our new offices and warehouse will be conveniently located, in a building ideally suited for our requirements, at 360 East Avenue, Rochester, New York. Our telephone number, Main 5433, will remain unchanged."

New York Paper and Pulp Market Review

OPA General Maximum Price Regulation On Paper and Papermaking Materials Goes Into Effect On May 11—Lower Grades of Waste Paper Soft—Demand For Roofing Rags and Bagging Active.

Office of the PAPER TRADE JOURNAL,
Wednesday, May 6, 1942.

An easier supply situation is quite widely commented upon in reports received this week from many manufacturers' representatives, jobbers, and general paper merchants. Demand for kraft sack paper, container, and fiber board, continues strong. Other paper items reflect a more normal activity, with coated and printing papers less active. The establishment of practically all prices at which manufacturers, wholesalers, and retailers are permitted to mark products, will go into effect on May 11. With this drastic control of prices to check inflation, the country will be placed on an all-out war economy. The influence of this measure will, of course, tend to curtail the production, demand, and consumption of a wide variety of products, many of which are manufactured from wood pulp and from paper.

Last month the WPB appealed to public schools and other public institutions, to stagger their purchases of some paper products, chiefly tissues and towels. No shortage in these items is expected, however, by the War Production Board.

The index of general business activity for the week, ended April 25 rose to 133.2%, from 132.6% for the preceding week, compared with 120.4% for the corresponding week last year. Paper board production was 1.5% higher.

Paper production for the week ended April 25 was estimated at 99.9%, compared with 97.8% for 1941, with 89.4% for 1940, with 84.3% for 1939, and with 70.4% for the corresponding week for 1938.

Paper board production for the week ended April 25 was 93.0%, compared with 84.0% for 1941, with 75.0% for 1940, with 68.0% for 1939, and with 59.0% for the corresponding week for 1938.

The General Maximum Price Regulation, issued April 28 by the office of Price Administration, is the major topic of discussion in the market at this date. The order affects all manufacturers, wholesalers, and retailers. The regulation specifically applicable to paper are No. 129, covering paper, paper products, and raw materials for paper and paper products. The ceiling prices applies to manufacturers, and the price level adopted is that prevailing October 1-15, 1941. This regulation becomes effective May 11, 1942.

Regulation No. 130, applies only to standard newsprint paper. It affects manufacturers, converters, distributors, and merchants. The price level selected is of October 1-15, 1941, which is the same as April 1, 1938. It becomes effective May 11, 1942.

The OPA announces this week that it will call a series of meetings in New York and in other important centers, with various branches of the paper industry and trade, at which all important aspects of the price regulation order will be discussed.

Wood Pulp

The establishment of maximum prices on wood pulp by the Office of Price Administration, has resulted in an uniform price stabilization of all standard grades of wood pulp. Production is reported at a high level, and an adequate supply of all grades is expected to be available during the current year.

Rags

OPA maximum prices will be established on new cotton cuttings and all other papermaking rags, by the General Maximum Price Regulation order of April 28. The maximum price level will be on the basis of the highest prevailing prices in March, 1942. It will take effect May 11, 1942.

Mill buying is reported good in cuttings and the roofing grades are also active.

Old Rope and Bagging

Mill buying of old Manila rope is reported good at this date. The General Maximum Price Regulation order of the OPA, effective May 11, will include all rope and other papermaking materials on which ceiling prices are not now in effect.

Trading in scrap bagging is reported active this week. Due to limited supplies, the market position of gunny and bagging is strong.

Old Waste Paper

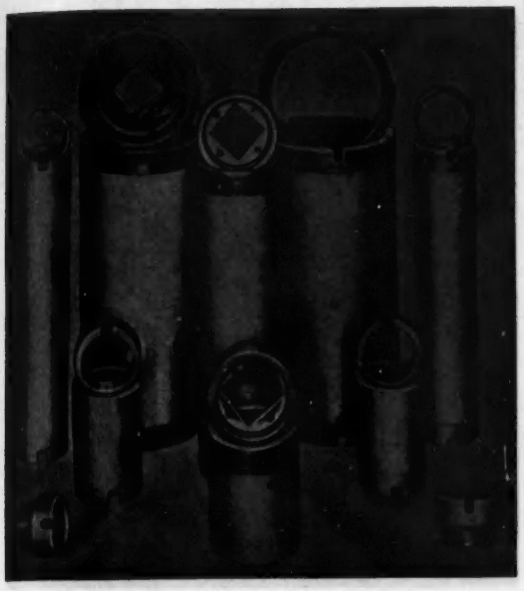
The current large supply of the lower grades of waste paper, has temporarily resulted in an oversupply. Prices are soft at this date, with many sales reported under OPA ceiling prices on No. 1 mixed, No. 1 folded news, No. 1 heavy books, and on old corrugated boxes.

Twine

No important change in the twine market has been reported at this date. Demand is somewhat easier on some leading grades of twine. Sales volume is good. Prices are firmly maintained on all leading grades of hard and soft fiber twines.

Find Sulphur Supplies Adequate

The American sulphur industry finds itself well able to cooperate with industrial users of sulphur who recently were advised by the War Production Board to build up stocks of sulphur at their plants so that possible future transportation tieups would not halt their operations. All sulphur production and shipment records were broken in 1941 and stocks at the mines decreased about 7%. The sulphur industry, however, during the first three months of this year, was able to exceed by about 8% the 1941 rate of porduction and increase by about 20% the rate established during the first quarter of 1941. As a result, stocks of sulphur at the mines on March 31 of this year were slightly in excess of the stocks at the end of 1941 in spite of the present accelerated demand and shipments. Producers of sulphur, therefore, have available ample stocks from which consumers may build up their reserves during the summer and so relieve the strain on the railroads during the fall and winter.



ELIXMAN

CAPS — Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability. — **CORES**

Samples of caps or cores will be gladly submitted

ELIXMAN PAPER CORE COMPANY, INC.
CORINTH, N. Y.

Appleton WIRES
ARE GOOD WIRES

Appleton Wire Works, Inc. Appleton, Wis.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL
Wednesday, May 6, 1942.

BLANC FIXE—Quotations on blanc fixe are firm and continue unchanged at prevailing market levels. The pulp is currently quoted at $40 per ton in barrels, at works; the powder is offered at $60 per ton, f.o.b., works.

BLEACHING POWDER—Prices on bleaching powder are firm. Demand reported moderate for the week. Bleaching powder is currently quoted at $2.25 per 100 pounds, in drums, at works.

CASEIN—Quotations on casein are unchanged for the week. Standard domestic casein, 20-30 mesh, is currently quoted at 21 cents per pound; 80-100 mesh at 21½ cents per pound; all prices in bags, car lots. Standard Argentina casein is currently offered at 17 cents per pound. No quotations on French casein.

CAUSTIC SODA—Prices of caustic soda are reported firm. Demand moderate for the current week. Solid caustic soda is currently quoted at $2.30 per 100 pounds, flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Quotations on china clay are firm and continue unchanged. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Quotations on chlorine unchanged. Government and industrial demand reported as continuing heavy during the current week. Chlorine is currently quoted at from $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—Quotations on some grades of rosin are higher for the current week. "G" gum rosin is currently quoted at $2.90 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $2.81 per 100 pounds in barrels, New York. Seventy per cent gum rosin size is quoted at $3.27 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm. Demand good for the current week. Domestic salt cake is currently quoted at $15 per ton in bulk; chrome salt cake at $16 per ton. All prices in car lots, f.o.b., shipping point. Quotations on imported salt cake are reported nominal at $16 per ton.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market quotations. Demand moderate. Quotations on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch continue unchanged for the current week. Pearl is currently quoted at $3.10 per 100 pounds; powdered starch at $3.20 per 100 pounds; all prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Demand reported moderate. The commercial grades are currently quoted at $1.15 per 100 pounds; iron free at from $1.75 to $1.85 per 100 pounds, in bags, car lots, f.o.b., works.

SULPHUR—Prices of sulphur are firm and continue to conform to prevailing market quotations. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $18 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mills. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$6.00	@	$7.00
Superstandard	5.25	"	6.25
Northern Standard Wrapping	4.75	"	5.25
Standard Wrapping	4.75	"	—
Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.05	"	—
White No. 1½	1.00	"	—
White No. 2	1.00	"	—
Anti-Tarnish M. G.	.95	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.35	"	—
Bleached, Jr.	2.65	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	8.75	@	10.75
No. 1 Manila Wrapping, 35 lb.	5.50	"	5.75
No. 2 Manila Wrapping, 35 lb.	5.25	"	5.50
Boards, per ton—			
News	*48.00	@	—
Chip	*45.00	"	—
Sgl. Mla. Ll. Chip	*60.00	"	—
White Pat. Coated	*75.00	"	—
Kraft Liners 50 lb.	*60.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds			Ledgers	
100% Rag Ext. No. 1	$40.25	@	$47.25	$41.40	@ $48.50
100% Rag	32.20	"	37.75	33.35	" 39.25
85% Rag	....	"	....	32.20	" 37.75
75% Rag	24.75	"	29.00	25.90	" 30.50
65% Rag	....	"	....	22.80	" 27.75
50% Rag	18.70	"	22.75	19.90	" 24.25
25% Rag	16.40	"	20.00	17.55	" 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds			Ledgers	
No. 1	$10.55	@	$12.75	$11.70	@ $14.25
No. 2	9.65	"	11.75	10.80	" 13.25
No. 3	9.20	"	11.25	10.35	" 12.50
No. 4	8.90	"	10.75	10.05	" 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper.

Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.50
No. 2 Glossy Coated	12.40	"	14.00
No. 3 Glossy Coated	11.60	"	13.25
No. 4 Glossy Coated	11.15	"	12.75
No. 1 Antique (watermarked)	10.25	"	11.75
No. 2 Offset	9.60	"	11.00
A Grade E. F.	9.35	"	10.75
A Grade S. & S. C.	9.60	"	11.00
B Grade E. F.	8.85	"	10.25
B Grade S. & S. C.	9.10	"	10.50
C Grade E. F.	8.55	"	9.75
C Grade S. & S. C.	8.80	"	10.00
D Grade E. F.	8.25	"	9.50
D Grade S. & S. C.	8.50	"	9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight to Destination.

Bl. Softwood Sulphite	$76.00		
Unbl. Softwood Sulphite	64.00	@	66.00
Bl. Hardwood Sulphite	73.50		
Unbl. Hardwood Sulphite	63.50		
Bl. Mitscherlich	81.00		
Unbl. Mitscherlich	72.00		
N. Bleached Sulphate	86.00		
S. Bleached Sulphate	79.00		
N. Semi-Bleached Sulphate	82.00		
S. Semi-Bleached Sulphate	75.00		
N. Unbl. Sulphate	73.00		
S. Unbl. Sulphate	63.50		
Bl. Soda	66.00		
Unbl. Soda	62.00		
Groundwood	46.00		

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50

	50%-80% Air Dry Weight
Northeast	$11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum price.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Skirt Cuttings—			
New White, No. 1	8.00	@	8.25
Silesias No. 1	4.50	"	4.75
New Unbleached	8.00	"	8.25
Blue Overall	5.75	"	6.00
Fancy	3.00	"	3.25
Washables	2.50	"	2.75
Mixed Khaki Cuttings	2.50	"	2.75
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Third and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.80	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
* Old Manila Rope	5.75	"	—

*OPA Maximum Prices.

Foreign Rags

All prices nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	3.25	@	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40

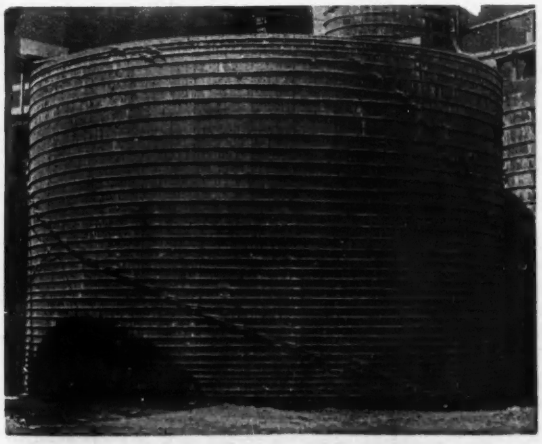
FOR OVER HALF A CENTURY . . . . .

KALAMAZOO HAS SPECIALIZED IN PAPER MILL TANKS

As a pioneer in paper mill tanks, we developed the Glazed Tile Tank which has received almost universal acceptance. More than 1,000 successful installations stand as proof of their cleanliness, long life and economy.

Here are shown three of approximately thirty tile tanks at the Kalamazoo Vegetable Parchment Company.

WOOD TANKS, ACID TANKS, BLOW PITS



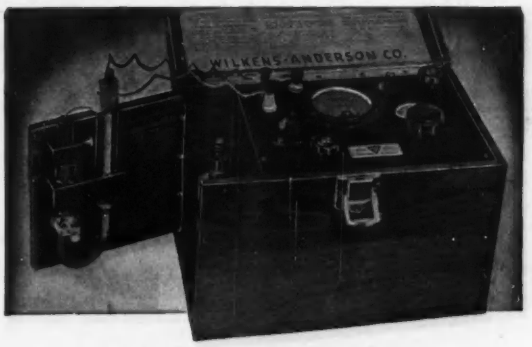
If you have a tank problem, why not let the long experience of our engineering staff guide you to the right answer.

Kalamazoo

TANK AND SILO COMPANY

KALAMAZOO, MICHIGAN

Established 1867



THE COLEMAN

pH ELECTROMETER

. . . *assures UNIFORMITY!*

★ ***At the BLEACHER, BEATER or HEADBOX*** **. . . paper men know it eliminates guesswork!**

Positive, reproducible results are obtained, appealing alike to chemist and plant foreman . . . no tedious refilling required . . . portable!

★ ***Water-tight construction*** **. . . with a rugged glass electrode . . . users like its operating simplicity in quick pH control tests.**

★ ***Accuracy*** **to 0.1 pH is guaranteed through a single daily calibration . . . no extra buffers required with the Coleman!**

★ ***Full range*** **0 to 13 pH scale . . . direct reading!**

★ ***Among the users:***

Canada Paper Co.
Champion Paper & Fibre Co.
Container Corp. of America
Cornell Wood Products Co.
Crocker, Burbank & Co.
Ditto, Inc.
Eddy Paper Co.
Filer Fibre Co.
Flintkote Co.
Fiuer Corp. Ltd.
Gardner-Richardson Co.
Imperial Paper & Color Corp.
International Paper Co.
Kilborn Photo-Paper Co.
Monadnock Paper Mills
Ohio Boxboard Co.
Phil-Fibre Box Board Mills, Inc.
Sorg Paper Co.
Soundview Pulp Co.
Southern Kraft Corp.
Ward Paper Co.
West Virginia Pulp & Paper Co.

★ ***Write*** **for bulletin PT542 describing the Coleman pH Electrometer, mentioning best priority rating available!**

WILKENS ANDERSON COMPANY

Laboratory Supplies and Chemicals

111 NORTH CANAL STREET, CHICAGO

Ord. Light Prints	1.75	"	2.12
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.00	@	4.25
Wool Tares, light	4.25	"	4.50
Wool Tares heavy	4.50	"	4.75
Bright Bagging	4.50	"	4.85
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	4.25	"	4.75
Sisal Strings	3.25	"	3.75
Mixed Strings	1.10	"	1.20

* OPA Maximum Price.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
Mixed Books	1.07½	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Mixed Ledger, colored	1.87½	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.85	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	1.75	"	—
Old Corrugated Containers	1.00	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¼	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—
(Hard Fiber)			
Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	.26	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1	.07¼	@	.07½
New White No. 2	.04½	"	.05
Light Silesias	.04½	"	.04¾
Silesias, No. 1	.04	"	.04¼
Black Silesias, soft	.03¼	"	.04
New Unbleached	.07¼	"	.07½
Washable Prints	.03¼	"	.03½
Washable No. 1	.02	"	.02¼
Blue Overall	.04½	"	.05½
Cottons—According to grades—			
Washable shredding	—	"	.01¾
Fancy Percales	.03¼	"	.03½
New Black Soft	.02¾	"	.03
New Dark Seconds	1.75	"	2.00
Khaki Cuttings—			
No. 1 O. D.	.03	"	.03¼
No. 2 Mixed	.02¼	"	.02½
Corduroy	.01¾	"	.02¼
New Canvas	.04¾	"	.05¼
New Black Mixed	—	"	.02½

Domestic Rags (Old)

White No. 1—Repacked	3.80	"	—
White No. 2—Repacked	2.90	"	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	Nominal		
Domestic	3.00	"	3.50
Sisal Rope	3.75	"	—
Mixed Rope	.75	"	1.00
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 White Ledger	2.17½	"	—
No. 2 Ledger, colored	1.87½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Box Board Cuttings	.72½	"	—
Jute Corrugated Cuttings	.90	"	—
Overissue News	.85	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices

No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.70	"	—
Overissue News	.85	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old Corrugated Containers	1.00	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	4.75	@	5.00
Sisal Rope	5.00	"	5.25
Mixed Rope	1.25	"	1.40
Transmission Rope—			
Foreign	(nominal)		
Domestic	4.00	"	4.25
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	5.50	"	6.00
Jute Carpet Threads	3.25	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	4.50	"	—
Scrap Sisal	4.75	"	5.00
Scrap Sisal for Shredding	5.50	"	5.75
Wool Tares—			
Foreign	(nominal)		
Domestic	5.00	"	5.75
Aust. Wool Pouches	5.75	"	6.00
New Burlap Cuttings	5.50	"	5.75
Heavy Baling Bagging	5.50	"	5.75
Paper Mill Bagging	3.09	"	3.25
No. 2 Bagging	1.35	"	—*

* OPA Maximum Price.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¼	"	.05
New White No. 1	.08	"	.08¼
New Light Flannelettes	.06	"	.06¼
Canton Flannel, Bleached	.08¾	"	.08½
Underwear Cutters, Bleached	.08	"	.08¼
Underwear Cutters, Unbleached	6.50	"	6.75
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03¼	"	.04
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.08¼	"	.08½
Blue Cheviots	.04¼	"	.05
Fancy	.02¾	"	—
Washable	.01¾	"	—
Cottons According to Grades—			
Blue Overalls	—	"	.05½
New Black, Soft	.03¾	"	.04
Khaki Cuttings	.04¼	"	.04¾
O. D. Khaki	.04½	"	.04¾
Corduroy	.02	"	.02¼
New Canvas	.06	"	.06¼
B. V. D. Cuttings	.07¼	"	.09

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—			
Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.35	"	—*
Quality B	1.20	"	—*
Quality C	.95	"	—*
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices.

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.50	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.17½	"	—
No. 1 Heavy Books & Magazines	1.57	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	.85	"	—
No. 1 News	.75	"	—
No. 1 Mixed Paper	.70	"	—
No. 1 Roofing Rags	1.55	"	—
No. 2 Roofing Rags	1.45	"	—

May Employ Girls Under 18

In compliance with a request for exemption made by Secretary of War Stimson, the Walsh-Healey Act restriction on the employment of girls under 18 last week had been with respect to certain contractors filling government orders, permitting them to employ girls 16 and 17 years of age.

This will make it possible for employers in the industries covered by the exemption to engage women workers already in their plants and others to be hired on both government contracts and private work in conformity with both Acts.

The exemption applies among other industries to converted paper products.